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ABSTRACT

This guide was developed to assist states in addressing the national workforce development objectives for the health professions and for employees of public health agencies in order to achieve the National Healthy People 2010 workforce objectives. The guide is organized in four sections. The opening section is a "how to" resource for planners. It provides seven strategy options for including workforce objectives in state Healthy People or other health plans. Two following sections focus on these three national Healthy People 2010 workforce objectives: (1) increasing the members of under-represented racial and ethnic groups in the health professions; (2) increasing the proportion of government agencies that incorporate specific competencies in the essential public health services into personnel systems; and (3) increasing the proportion of government health agencies that provide continuing education to develop competency in essential public health services for their employees. Each section on specific workforce objectives includes an issue summary, a strategy summary, examples of strategy implementation, and resources. The final section of the document provides a listing of all the Healthy People 2010 workforce-related objectives. Appendixes include a bibliography of articles and resources for increasing minority representation in the health professions and for continuing education in public health. A list of core public health competencies is included. (KC)

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The Key Ingredient of the National Prevention Agenda: Workforce Development

A Companion Document to *Healthy People 2010*

U.S. Department of Health and Human Services
HRSA
Health Resources and Services Administration
Bureau of Health Professions

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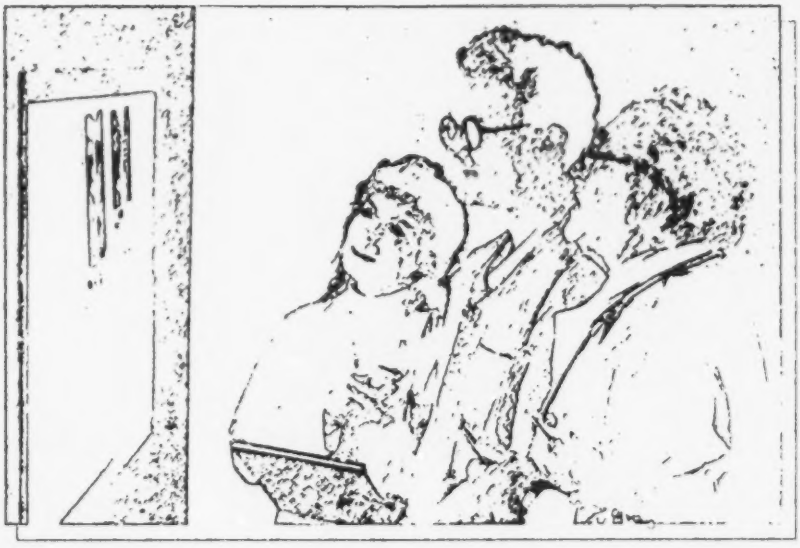
The Key Ingredient of the National Prevention Agenda: Workforce Development

A Companion Document to *Healthy People 2010*



U.S. Department of Health and Human Services
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Healthy People 2010 - the Nation's 10 year disease prevention and health promotion agenda - supports the primary goals of increasing quality and years of healthy life and eliminating health disparities. We know that substantive progress in improving the health of individuals, families, and communities is heavily dependent upon the human capital which powers and sustains the Nation's public health system: The heart of this system is the public health workforce.

The Health Resources and Services Administration's (HRSA) Bureau of Health Professions is the principal Federal agency specifically charged by Congress "to enhance the production and distribution of public health personnel to improve State and local public health infrastructure." This mandate includes addressing the needs of the current workforce as well as preparing the workforce of the future to meet the new emerging public health challenges facing the Nation.

Consistent with this charge, this Healthy People companion document seeks to equip the workforce with relevant, practical tools, proven strategies, and useful resources which address three prominent Healthy People 2010 workforce objectives:

(1) Increase the number of under-represented minorities entering health professions programs;

(2) Increase the number of public health agencies offering continuing education courses; and

(3) Increase the number of public health agencies building personnel and training systems around competencies in the essential public health services.

We hope that you will consider these workforce objectives and the related resources in shaping your State/local Healthy People 2010 plan in a way that meets your particular needs.

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Overview

Welcome to the Healthy People 2010 companion document for workforce development! Healthy People 2010 brings new challenges for workforce development and recognizes that a diverse and prepared workforce is the underpinning of achieving better health and eliminating health disparities in America. (For more information on Healthy People 2010, please refer to the Healthy People 2010 Workforce-related objectives section on page 36.

This document intends to assist States in addressing the national workforce development objectives for the health professions and for employees of public health agencies. Achieving the National Healthy People 2010 workforce objectives relies upon the leadership and commitment of States as well as many other partners. We hope this guide will reinforce and advance the commitment of many leaders—including State health officials, Healthy People coordinators, workforce development coordinators, minority health directors, personnel officers, and others involved in Healthy People planning—to put workforce development on their prevention agendas for the decade.

With so many important workforce development issues and program resources for the public health community to consider, the decision on what to include in this companion document was not easy. In response to the interests and needs of over 40 State and national leaders consulted after the launch of Healthy People 2010, we kept this document narrowly focused on a few workforce objectives in Healthy People 2010 and identified practical strategies, ideas, examples, and resources. We wanted to document that the objectives are both achievable and important in fostering healthy communities. The individuals consulted had indicated they would like materials that could be copied and shared with planning group members, colleagues, and community partners. Based upon this information, we have included short strategy and resource summaries and stand-alone sections matching specific Healthy People objectives.

Organization

This document is organized in four sections. The opening section is a "how to" resource for planners. It provides seven strategy options for including workforce objectives in State Healthy People or other State health plans. These State plans can serve as a road map for State workforce development efforts.

Two other sections focus on three national Healthy People 2010 workforce objectives.[1] These three objectives are:

1-8. **In the health professions, allied and associated health profession fields, and the nursing field, increase the proportion of all degrees awarded to members of under-represented racial and ethnic groups.**

23-8. **(Developmental) Increase the proportion of Federal, Tribal, State, and local agencies that incorporate specific competencies in the essential public health services into personnel systems.**

23.10. **(Developmental) Increase the proportion of Federal, Tribal, State, and local public health agencies that provide continuing education to develop competency in essential public health services for their employees.**

Each section on specific workforce objectives includes:

- an issue summary;
- a strategy summary; and
- strategy examples and resources.[2]

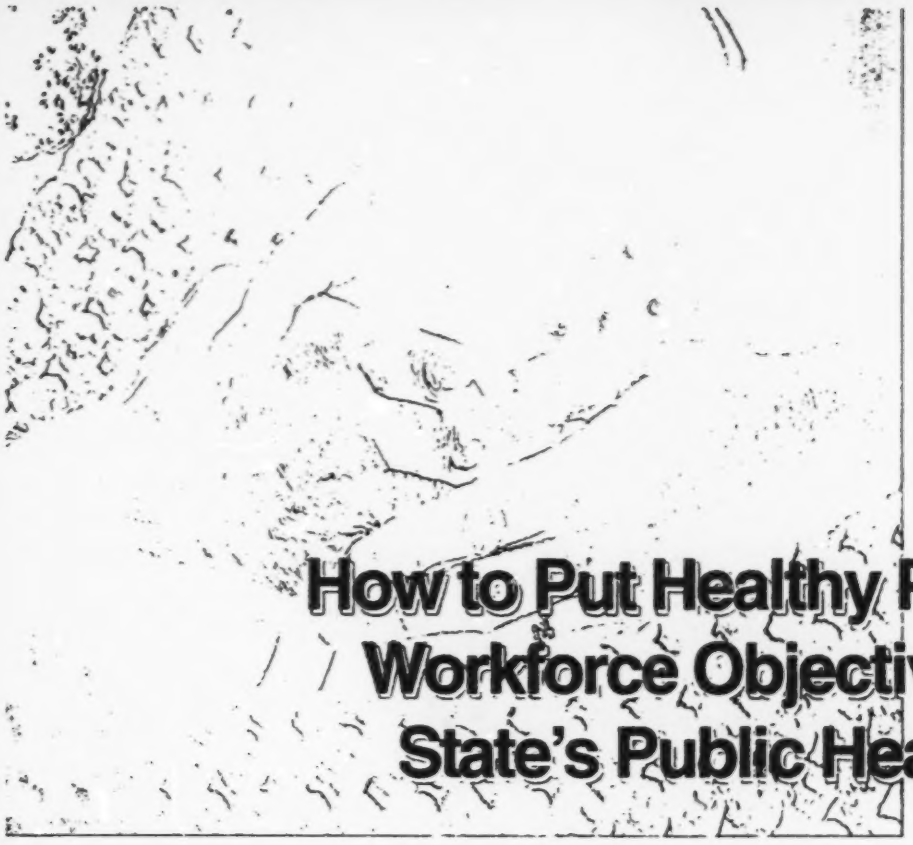
In the section on minority representation in the health professions,[3] the issue summary points out that one of the causes of health disparities along racial and ethnic lines is lack of access to health care services among minorities. Health services professionals from under-represented minorities can improve access to health care services and help accomplish one of the primary goals of Healthy People 2010, to end health disparities. However, the number of applicants from under-represented minority groups to

medical schools has declined since the mid-1990s.[4] Nursing and pharmacy school applicants increased during the same period. The strategy example and resource section provides a wealth of programs, from high school through graduate school, to increase under-represented minorities in the health professions. A special "At a Glance" section provides data on percentages of under-represented minorities in selected health professions.

In the section on continuing education for public health employees, the issue summary discusses opportunities to build upon the long tradition of training and continuing education in public health. To assure a competent public health workforce in the 21st century, it is essential training be built around public health core competencies.[5] This training is particularly important for public health employees who have not had any formal training in public health. Public health training may contribute to retention of employees and higher productivity, especially when combined with other effective workplace practices. We have found State and local health officials who testify to the importance of maintaining and increasing training programs when public health budgets are reduced. Their reasons are described. The strategy examples and resources provide examples of comprehensive training programs and systems that support training for specific competencies.

The final section provides a listing of all the Healthy People 2010 workforce-related objectives.

The appendices include a bibliography of articles and resources for increasing minority representation in the health professions and for continuing education in public health. A list of core public health competencies from the Council on Linkages Between Academia and Public Health Practice is also included.



HEALTHY PEOPLE 2010

How to Put Healthy People 2010 Workforce Objectives on Your State's Public Health Agenda

A diverse and prepared workforce is the key to achieving the goals of Healthy People 2010 as well as many other health improvement initiatives. There are many ways to build workforce development into the design of your State's Healthy People 2010 or other planning efforts. Seven strategic options are identified below.

State Healthy People 2010 Planning Efforts

1. Choose "Public Health Infrastructure" as a separate "focus area" of your State's Healthy People 2010 plan and include workforce development objectives. Many States, including Iowa, Kentucky, Maryland, New Jersey, and West Virginia have selected Public Health Infrastructure as an important area in their plans. States and communities can choose which of the 28 focus areas to use from the national Healthy People 2010 plan (http://www.health.gov/healthypeople/).
2. Include the workforce objectives in selected areas of your State's Healthy People 2010 plan, such as "Access to Quality Health Services" or "Educational and Community-Based Programs."
3. Encourage the individuals planning and coordinating development of the focus areas of your State's Healthy People 2010 plan to include workforce objectives and strategies. For example, in Iowa, in addition to setting workforce objectives in a chapter on public health infrastructure, *Healthy Iowans 2010* outlines workforce strategies in numerous chapters, including Nutrition, Mental Health and Mental Disorders, and Environmental Health.

- Invite workforce development groups and training coordinators to participate in the planning of your State's Healthy People 2010 focus areas. Bring workforce experts to the planning table!
- Ensure planning groups know about State or local workforce development issues before they establish objectives. Briefing materials on each focus area may include such items as State or local health workforce data by race and ethnicity and other infrastructure strengths and weaknesses. Although Delaware's market research indicated a focus area on public health infrastructure would not appeal to target audiences for

Healthy Delaware 2010, State organizers still wanted to include workforce development in their plan. To stimulate workforce planning around the selected areas, they prepared briefing materials for planners that described relevant workforce issues and potential workforce development strategies specific to each focus area.

- Provide checklists for reviewers, so they evaluate how well "draft" focus areas address workforce and other public health infrastructure issues.
- Include "training and workforce development" on a list of general strategies for work groups to consider how to achieve objectives, e.g., community outreach, social marketing, policy development, training and workforce development.

4. After you prepare your State Healthy People plan, encourage partners to include workforce development as part of their detailed implementation plans at the State, local, and agency levels.
5. Establish a special commission or planning group to develop a supplement or "companion document" to your State's Healthy People plan focusing on the workforce and infrastructure needs to achieve the goals and objectives of your plan. Several States, including Texas and Washington, have developed comprehensive plans focusing on workforce development. An innovative strategic plan on workforce development can complement your State's Healthy People 2010 initiatives.
6. Include workforce development in mid-decade, interim, or progress reviews when you update the State plans, objectives, and strategies.

Other Planning and Assessment Efforts

7. Incorporate Healthy People 2010 workforce objectives into the plans and public relations communications of other planning initiatives, such as:
   - Turning Point (http://www.naccho.org/GENERAL3.htm);
   - Community health improvement efforts using Mobilizing Action Through Planning and Partnerships Project (MAPP) (http://www.naccho.org/MAPP_Home.asp),
   - Assessment Protocol for Excellence in Public Health (APEX*PH)* (http://www.naccho.org/prod5.cfm), or other tools;
   - Protocol for Assessing Community Excellence in Environmental Health (PACE EH) (http://www.naccho.org/general182.cfm);
   - Self-assessments using the National Public Health Performance Standards Program tools which look at how well public health systems "assure a competent public health and public health care workforce," one of the Ten Essential Public Health Services, a recognized framework around which the tool is built (http://www.phppo.cdc.gov/dphs/nphpsp);
   - Public Health agency and personnel department strategic plans;
   - Hospital, managed care organization, and health association strategic plans; and
   - University and health care institution masterplan.

It's All in the Packaging...

Marketing—what will appeal to your leaders and communities—should be an important consideration in the approach you choose to advance Healthy People 2010 workforce objectives.

In States where public health workforce issues are priority concerns among leaders and communities, a clear focus on workforce development in State 2010 plans can ensure the necessary training for workers in the health occupations and disciplines. In some States, a successful strategy might be to link workforce issues with high priority concerns such as access to health care or eliminating health disparities. For an example of how one State linked workforce issues to high priority concerns, see page 28. This description shows how a State convinced its legislature to fund public health workforce training by presenting it as a disease prevention issue.

HEALTHY PEOPLE 2010

Minority Representation in the Health Professions

Objective 1-8

In the health professions, allied and associated health profession fields, and the nursing field, increase the proportion of all degrees awarded to members of under-represented racial and ethnic groups.

Communities care about this objective because:

- Minority Americans working in health care can help end disparities in health status.
- A diverse health workforce is important in assuring the delivery of culturally competent health care and preventive services.
- Minority health professionals can serve as role models in our diverse communities.
- Minorities are an increasing proportion of the U.S. population.
- Minority Americans are five times more likely to treat other under-represented minorities in underserved areas.[6]

Issue Summary

A primary goal of Healthy People 2010 is eliminating health disparities according to race, ethnicity, gender, and disability. One cause of health disparities is lack of access to health care, public health, and preventive services among under-represented minorities.[7] Increasing the number of health professionals from under-represented racial and ethnic groups is viewed as an integral part of the solution to improving access to care.[8] In examining one health profession, physicians, studies indicate that under-represented minority physicians can improve access to medical care and are more likely than White physicians to:

- serve in communities where there is a shortage of physicians;
- treat minority, sicker, and poorer patients; and
- propose research on diseases and health problems disproportionately affecting minority individuals and communities.[9]

Strategies to increase the numbers of under-represented minority physicians and other health professionals are likely to increase access to care by under-served minority populations.

There are low numbers of under-represented minority graduates in medicine[10] and other health professions in the United States.[11] Despite efforts to increase these numbers, they have persisted for over three decades. For example, between 1981-1997 the

percentage of under-represented minorities in the disciplines of podiatry, dentistry, and optometry decreased, while the percentage of minority enrollees in pharmacy and nursing schools increased.[12] Even with increases in some disciplines, the percentage of minority health professionals continues to be well below their percentage of the overall United States population. Members of under-represented racial and ethnic groups make up about 25 percent of the U.S. population. However, their representation among health professionals is only about 10 percent.[13]

Increasing under-represented minorities in the health professions has been on the Nation's prevention agenda since Healthy People 2000. The targets set for Healthy People 2000 for enrollment and graduation of under-represented minorities were not achieved. Achieving the revised targets for 2010 will require strong leadership and widespread action.

Programs designed to increase the numbers of under-represented minorities in the health professions appear to have a positive effect. An important factor causing variations in minority enrollment in the health professions is the vigor a specific discipline or occupation devotes to that effort.[14] Through combined efforts of programs such as the Health Careers Opportunities Program, created in 1972 by the Health Resources and Services Administration (HRSA) Bureau of Health Professions (BHPr), and *Project 3000 by 2000,* created by the Association of American Medical Colleges (AAMC) in 1991, the numbers of under-represented minority graduates from schools of medicine increased until academic year 1996-1997.[15] During that year, affirmative action came under legal and legislative challenge. Eighteen States introduced legislation to end affirmative action policies, and four States, California, Texas, Louisiana, and Mississippi, passed such State legislation.[16] In those States where affirmative action was eliminated, the applications from under-represented minority students dropped a total of 17 percent in 1997. In other States, applications from minority students dropped seven percent.[17]

This section provides numerous strategies, exemplary programs, and resources you can use in your State or community to increase minority representation in the heath professions. The following information addresses programs for under-represented minorities in the health occupations and disciplines related to public health, medicine, dentistry, nursing, pharmacy, and allied and associated health professions. Although Healthy People 2010 [18] does not include the public health professions in its discussion of Objective 1-8, we have specifically included these professions in our listings throughout this section because we recognize that States may wish to cast their own objectives more broadly.

Achieving Minority Representation in the Health Professions

Strategy Summary

Healthy People Objective 1-8

The Big Picture

- Educate and persuade legislators and State executives to take a position favoring the consideration of race/ethnicity among many factors for admissions to State-supported health professions schools.
- Create partnerships among State health officials, health professions schools, and existing programs to involve and secure commitments from high-profile State leaders to train more minority health professionals.
- Assure that under-represented minorities and institutions in the communities you serve are aware of national educational programs and resources for training health professionals.
- Provide State and local funds to expand scholarships and fellowships for under-represented minorities.

Elementary, Junior High, and High Schools

- Develop comprehensive programs to promote health career opportunities to youth of all ages, parents, and schools.
- Promote health professions in high schools with high minority populations.
- Establish health professions magnet schools in communities with high minority school populations.
- Create health-related jobs programs, internships, and volunteer opportunities for minority youth.

College: Undergraduate

- Establish local programs to prepare undergraduate minority students for admission to and success in health professions schools.
- Provide internships and field experiences for under-represented minority students to gain exposure to health professions and practice settings.
- Offer students preparatory programs to increase minority admissions to health professions schools.

College: Post-Graduate

- Provide under-represented minority health professions graduate students with specialty training to reduce health disparities through community-based research and practice.
- Provide minority college graduates preparatory training for graduate work and scholarly research in the health professions.
- Promote or provide under-represented minority pre- and post-doctoral fellowships and faculty grants to conduct medical and health-related research.

College: Faculty

- Establish posts for minority professionals in academia to act as role models.

Achieving Minority Representation in the Health Professions
Strategy Examples and Resources

The following pages cover detailed examples of strategies to increase under-represented minorities in the health professions. Resources for more information also are noted.

The Big Picture

Strategy: Educate and persuade legislators and State executives to take a position favoring the consideration of race/ethnicity among other factors for admissions to State-supported health professions schools.

Example: Leaders' positions may be informed by the position of Health Professionals for Diversity, a coalition of more than 50 medical, health, and educational organizations representing thousands of the Nations health care providers and educators. The coalitions' position is:

- *"Racial and ethnic diversity in the health professions is essential for the delivery of quality health care.*
- *Affirmative action, including the right to consider race/ethnicity among the many factors that may be reviewed in admission decisions, is still needed to produce a diverse health professions workforce.*
- *Efforts to increase the size and academic preparation of the minority applicant pool though systemic educational reform is the long-term solution to the problem of minority under-representation, but is not a viable short-term alternative to more traditional forms of affirmative action."*[19]

Resource: Health Professionals for Diversity http://www.aamc.org/about/progemph/diverse/start.htm

* * *

Strategy: Create partnerships among State health officials, health professions schools, and existing programs to involve and secure commitments from high-profile State leaders to train more minority health professionals.

Example: The Health Professional Partnership Initiative (HPPI) is a grants program funded by the Robert Wood Johnson and W.K. Kellogg Foundations to increase minority health professional school applicants through collaboration. HPPI provides funding to medical and other health professions schools to partner with K-12 school systems and undergraduate colleges. The HPPI is based on the premise that medical and other schools cannot solve minority under-representation problems single-handedly. The HPPI grants program grew out of an initiative called *Project 3000 by 2000*, focused on increasing minority applicants to medical schools. An important lesson of *Project 3000 by 2000* was that almost one-third of the schools reported that project implementation was slowed by a lack of funding due to low priority of the program among overall institutional goals. Partnerships, combined with State and community leadership, may help raise priority attention by schools and health officials. HPPI grantees include eight schools of medicine, five schools of public health, and one nursing school. According to an AAMC spokesperson, one of the 1996 college-based HPPI grantees sent a dozen minority students to medical school. A formal assessment of the program is underway, specifically looking at how the partnerships formed, program strengths, and interim outcomes of each program. For a list of funded partnerships, see the HPPI web site below. *Project 3000 by 2000* was founded in 1991 by the AAMC. During its first three years, the Nation's medical schools were on target to achieve graduating 3,000 under-represented minority students each year by the year 2000. However, anti-affirmative action legislation and legal action in 1996-1997 had a toll—there was no increase in under-represented minority applicants that year. Applicants to medical schools were still down to approximately 1,700 in 2000.

Resource: Lois Colburn, Health Professional Partnership Initiative *Project 3000 by 2000*, Association of American Medical Colleges, 2450 N Street NW, Washington, DC 20037 (202) 828-0579 lcolburn@aamc.org http://www.aamc.org/meded/minority/3x2/

* * *

Strategy: Assure that under-represented minorities and institutions in the communities you serve are aware of national educational programs and resources for training health professionals.

Examples: Grant Making Programs
The Health Resources and Services Administration's (HRSA) Bureau of Health Professions (BHPr) awards grants to health professions training programs. These grants support efforts to provide training opportunities for disadvantaged and under-represented minority students and faculty. The grant programs include those listed below.

- Health Careers Opportunity Program (HCOP) was created in 1972 by Congress to improve access to health professions education for students from disadvantaged backgrounds. In Fiscal Year 2000, 88 grants, totaling $26.7 million, were awarded primarily to health professional schools, undergraduate institutions, and community colleges. HCOP provides grants to support efforts that: (1) recruit under-represented minorities from disadvantaged backgrounds for health professions training; (2) provide mentoring and other support services to assist individuals from disadvantaged backgrounds to complete their training; (3) publicize sources of financial aid; (4) provide scholarships and stipends for students from disadvantaged backgrounds; (5) give disadvantaged students experience in comm nity-based primary health care; and (6) build a larger and more competitive health professions applicant pool through partnerships with schools and other community- based organizations.

- Centers of Excellence (COE) grants are awarded to schools of dentistry, pharmacy, allopathic and osteopathic medicine, and other public and nonprofit health or educational facilities for exemplary practices resulting in the increase of under-represented minorities in the health professions. Grants are used for such activities as: (1) developing a large competitive applicant pool by forming linkages between local high school districts, higher education institutions, and community groups; (2) facilitating faculty and student research on issues affecting racial and ethnic minorities; and (3) training students at community-based facilities providing care to minority populations. In Fiscal Year 2000, 25 grants were awarded, totaling $24.9 million.

- Nursing Workforce Diversity grants are awarded to nursing schools, nursing centers, academic health centers, State and local governments, and other institutions to increase opportunities in nursing education for individuals from disadvantaged backgrounds, including under-represented minorities. Grantees use funds to provide student scholarships and stipends, pre-entry preparation, and retention programs.

- Scholarships for Disadvantaged Students are awarded to accredited schools of medicine, nursing, public health, and allied health professions for scholarships for full-time, financially needy students enrolled in graduate or under graduate programs. The participating schools are responsible for selecting scholarship recipients and making reasonable determinations of need for tuition, educational expenses, and reasonable living expenses. Awards are made to individual students from the financial aid office of a participating school. The Fiscal Year 2000 budget for the scholarship program was approximately $38 million.

Resources: Grant Making Programs
Health Careers Opportunity Program, Karen Smith, Program Officer, Division of Health Professions Diversity, Bureau of Health Professions, Health Resources and Services Administration, 5600 Fishers Lane, Room 8-67, Rockville, MD 20857(301) 443-1348 (301) 443-4943 fax ksmith@hrsa.gov http://bhpr.hrsa.gov/dhpd/hcophome1.htm

Centers of Excellence, Sheila Norris, Program Officer, Division of Health Profession Diversity, Bureau of Health Professions, Health Resources and Services Administration, 5600 Fishers Lane, Room 8A-09, Rockville, MD 20857 (301) 443-1348, (301) 443-4943 fax snorris@hrsa.gov http://bhpr.hrsa.gov/Grants2001/coe.htm

Nursing Workforce Diversity, Barbara Easterling/ Ernell Sprately, Nursing Special Initiatives and Programs Systems Branch, Bureau of Health Professions, Health Resources and Services Administration, 5600 Fishers Lane, Room 9-36, Rockville, MD 20857 (301) 443-8798, (301) 443-8586 fax beasterling@hrsa.gov http://bhpr.hrsa.gov/dn/dn.htm

Scholarships for Disadvantaged Students, Angie Lacy, Division of Student Assistance, Bureau of Health Professions, Health Resources and Services

Administration, 5600 Fishers Lane, Room 8-34, Rockville, MD 20857 (301) 443-5396, (301) 443-0846 fax alacy@hrsa.gov http://bhpr.hrsa.gov/dsa/

* * *

Example: The Area Health Education Centers (AHEC) Network consists of 170 AHEC centers affiliated with 40 HRSA-funded AHEC programs, as well as nine Health Education Training Centers (HETCs). The Network's mission is to increase access to quality primary health care by improving the distribution and diversity of the health care workforce through academic and community partnerships. These programs work with a variety of local and State agencies, organizations, and educational institutions in their efforts to improve access to care in underserved communities. Each year AHEC programs in State universities and medical schools provide:

- health care careers information to 224,000 high school students and 6,000 high school counselors and teachers;
- summer health career experience to 24,000 high school students;
- community-based training experience to more than 30,000 health professions students; and
- continuing education programs on clinical and public health topics to approximately 265,000 local providers.

The HETC mission is to meet the persistent health needs of States bordering on Mexico, as well as medical shortage areas in urban and rural areas of Arkansas, Florida, Georgia, Kentucky, and South Carolina with severe unmet needs. In 1998, HETCs trained more than 4,000 students, including many from under-represented minority populations, in entry-level health positions as community health workers, physician assistants, nurse practitioners, as well as in nursing and medicine.

Resource: Louis D. Coccodrilli, Area Health Education Centers Branch Chief, Division of Interdisciplinary Community-Based Programs, Bureau of Health Professions, Health Resources and Services Administration, 5600 Fishers Lane, Rockville, MD 20857 (301) 443-6950 (301) 443-0157 fax lcoccodrilli@hrsa.gov http://bhpr.hrsa.gov/interdisciplinary/index.html

* * *

Examples: Admissions Programs In addition to *Project 3000 by 2000*, the Association of American Medical Colleges has created two programs to assist under-represented minorities admission to medical schools:

- Medical Minority Applicant Registry (Med-MAR) provides an opportunity for under-represented minorities and economically disadvantaged students who wish to apply to medical school to put their names in this registry at the time they take the admissions test. The registry was created to enhance admission opportunities by circulating biographical information concerning applicants to AAMC member medical schools and health agencies interested in increasing opportunities for minorities.
- Expanded Minority Admissions Exercise is a workshop for AAMC member medical schools, conducted at their request, developed to train admissions committees on the assessment of minority applicants to medical schools. The workshop provides training on factors believed to contribute to the success of minority students, such as leadership, realistic self-appraisal, determination, motivation, family and community support, social interest, coping capability, and communication skills.

Resource: Lily May Johnson, Medical Minority Applicant Registry Expanded Minority Admissions Exercise, Association of American Medical Colleges, 2450 N Street, NW, Washington, DC 20037 (202) 828-0573 lmjohnson@aamc.org http://www.mfdp.med.harvard.edu/contact.htm

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Example: The Indian Health Service (IHS) provides recruitment and career development through staff education, training, and structured assignments. The IHS provides $13 million annually to award scholarships funding pre-professional and professional level training to American Indian and Alaska Native students seeking higher education degrees in medicine, nursing, social work, pharmacy, medical technology, nutrition, medical records, health administration, and many other fields. Each year more than 100 new scholarship recipients are selected for health profession training in this competitive program. The IHS

offers a wide variety of career opportunities under the Federal Civil Service and U.S. Public Health Service Commissioned Corps personnel system. Opportunities always exist for physicians, dentists, nurses, and other health professionals to select a location to practice. Title I of the Indian Health Care Improvement Act, Public Law 94-437, and the amendments of 1980 and 1988 provide for establishment of a health workforce scholarship program designed to meet the health professional staffing needs of the IHS. The long-range objective of Title I is to augment the inadequate number of health professionals serving Indians and remove the multiple barriers to the entrance of health professionals into the IHS. Opportunities include advanced training through physician residencies in specialties needed by the IHS, a dental residency program, pharmacy residency program, and a nurse anesthetist-training program. A special program provides training for American Indian and Alaska Native nurses to prepare them for advanced degree studies. IHS sponsors a state-of-the-art Indian injury prevention specialist program. Allied and auxiliary health personnel of the IHS have training opportunities for such careers as health records technician, dental assistant, optometric assistant, medical social worker, mental health worker, and pharmacy assistant.

Resource: Darrell Pratt, Leader Indian Health Service Headquarters, Twinbrook Metro Plaza, Suite 100A, 12-3000 Twinbrook Parkway, Rockville, MD 20857 (301) 443-4242 (301) 443-1071 fax dpratt@hqe.ihs.gov http://www.ihs.gov

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Example: The Minority Visiting Professorship Program was established to: (1) stimulate the interest of minority students in preventive medicine as a career; (2) increase the awareness in minority and other student health professionals concerning the role of prevention in improving the health status of minority populations; (3) provide a learning experience for people of different cultures and values; (4) provide opportunities for dialogue between minority students and faculty; and (5) raise the awareness of medical school faculty and admissions officers concerning minority recruitment issues. In 1999-2000 a competitive selection process gave several campuses an opportunity to host visits from minority preventive medicine specialists who have distinguished careers in public health and preventive medicine. The Program provided funding for these visits. The campuses include: State University of New York at Stony Brook, Boston University, University of Mississippi Medical Center,

Many Reasons for Partners to Support a Diverse Health Workforce

To promote educational and career opportunities for minorities in the professions, consider partnering with groups outside the health field, such as:

- Department of Education;
- Minority civic groups;
- Human relations commissions;
- Community development organizations; and
- Empowerment Zones and Enterprise Communities

In addition to the potential health benefits of a diverse health workforce, community and government partners may be interested in the social and economic benefits health careers can bring to individuals, families, and communities. As the largest industry in the United States, the health care industry offers professional jobs for over 8 million Americans and this number is growing. Consequently, efforts to promote health careers to under-represented minorities will gain allies in many communities where health disparities and high minority unemployment are problems.

Creighton University School of Medicine, Mercer University School of Medicine, Weill Medical College of Cornell University, and Harvard Medical School.

Resource: Association of Teachers of Preventive Medicine, 1660 L Street, NW, Suite 208, Washington, DC 20036 (202) 463-0550, (202) 463-0555 fax (866) 474-2876 toll free info@atpm.org http://www.atpm.org

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Strategy: Provide State and local funds to expand scholarships and fellowships for under-represented minorities.

Example: Delaware is considering a workforce objective to increase under-represented minorities in the health professions in its State Healthy People 2010 plan, *Healthy Delaware 2010* (September 2000 draft). Recognizing the importance of State scholarship funds, the draft "Access to Health Care Services" focus area includes an objective to establish a fund to train minority health care professionals, especially under-represented minorities, and train at least 200 per year. Strategies call for the health care sector to take the lead in expanding and promoting health professionals' education funds to educate a broader array of the State's health care providers. Complementary strategies in the draft State plan for the education sector include establishing health career education, mentoring programs in schools with high minority student populations, and establishing magnet high schools for the health professions to attract and prepare minority students for health careers.

Resource: Terrance Zimmerman, Chief of Administration, Delaware Division of Public Health, Delaware Health and Social Services, Jesse Cooper Building, P.O. Box 637, Dover, DE 19903 (302) 739-4779 (302) 739-3008 fax TZimmerman@state.de.us http://www.healthydelaware.com

Elementary, Junior High, and High Schools

Strategy: Develop comprehensive programs to promote health career opportunities to youth of all ages, parents, and schools.

Example: Kids Into Health Careers is a new HRSA initiative to increase the pool of qualified applicants from disadvantaged backgrounds to health professions schools, many of whom are under-represented minorities. Beginning in Fiscal Year 2001, this initiative will target students from pre-elementary through high school as well as their parents, teachers, counselors, and school administrators. It will show them entry-level positions in the health professions such as phlebotomists (blood drawers), emergency medical technologists, athletic trainers, and medical records technicians, as well as physicians, dentists, and nurses. This initiative will encourage all HRSA grantees to promote entry into the health professions by minority youth, using HRSA-supplied kits with the principal theme, "Yes you can." The kits will be available upon request to anyone—not just HRSA grantees. The program's goals are to: (1) inform students about hundreds of different health professions careers; (2) create optimism about the accessibility of health professions training; (3) provide facts about the availability of financial aid for health professions training; (4) increase awareness about the need for under-represented minorities in the health professions; and (5) improve overall health care access by increasing minority applicant pools for training.

Resource: Anthony Hollins, Jr., Center for Program Coordination, Bureau of Health Professions, Health Resources and Services Administration, 5600 Fishers Lane, Room 9C-15, Rockville, MD 20857 (301) 443-4787 (301) 443-7904 fax thollins@hrsa.gov http://bhpr.hrsa.gov/kidscareers/default.htm

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Examples: The Harvard Medical School (HMS) Minority Faculty Development Program "Pipeline" includes several programs designed to introduce youth to health careers, provide mentoring, and build math and science skills. Explorations is a pilot program introducing middle school students to the potential of health science careers. Students are selected for their interest in math and science by Boston teachers who voluntarily participate in the Harvard Medical School Teachers' Institutes. The Explorations program consists of a keynote address, panel discussions with high school, college, and graduate students, laboratory time, and the opportunity of "shadowing" scientists from HMS, the Harvard School of Dental Medicine, and the Massachusetts College of Pharmacy and Health Sciences. The competitive Junior Science and Humanities Symposium is a regional symposium for junior and high school students featuring research presentations, poster sessions, affiliated-hospital site visits, and Harvard Medical School student panel and faculty discussions. Student oral and poster presentations are chosen by a HMS faculty and a high

Model Programs Build a Pipeline to Health Careers

Model programs exist from high school to postdoctoral levels to help under-represented minorities obtain education and training in the health fields. In many communities, these programs have demonstrated their success over several decades and enjoy strong support.

To build a pipeline for minorities to the health professions, States, communities, and educational institutions can implement programs targeted by educational level:

- elementary, junior high, and high school; and
- college: undergraduate, post-graduate, and faculty.

school teachers panel, who review student abstracts and research papers. The Biomedical Science Careers Program (BSCP) is a not-for-profit collaboration with biotechnology, business, and academic institutions, providing biennial conferences for New England minority students (high school through professional school), minority faculty, and postdoctoral fellows who are interested in careers in science and medicine. The BSCP also provides a newsletter, resource directory, and scholarships.

Resource: Minority Faculty Development Program, Harvard Medical School, 164 Longwood Avenue, Boston, MA 02115 (617) 432-4697—Faries Odom or (617) 432-4422—Lise Kaye (BSCP) (617) 432-3834 fax faries_odom@hms.harvard.edu or lise_kaye@hms.harvard.edu http://www.mfdp.med.harvard.edu/contact.htm

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Example: The Chicago Expanded Health Professional Partnership Initiative is an education and recruitment program in the School of Public Health at the University of Illinois at Chicago (UIC). It targets students in five elementary schools and four high schools in the Chicago Public Schools system. By enrolling children in the program in elementary school and following them through high school with grade-specific approaches, the program aims to increase the students' awareness of public health career options and prepare them for admission into schools with public health degree programs. The program began in 2000 when the Robert Wood Johnson Foundation awarded UIC's School of Public Health $347,000 to increase the number of Black and Latino students enrolling in and graduating from advanced degree programs in the public health sciences. The UIC School of Public Health is one of eight schools of public health that received a grant through the Robert Wood Johnson Foundation's Health Professions Partnership Initiative. The UIC initiative strives to accomplish its mission through activities and programs that include:

- Increasing awareness of public health issues and career options among elementary school children by holding a public health general assembly during national Public Health Week.
- Working with science teachers to encourage middle school students to create public health-related science fair projects.
- Developing public health educational modules for middle school students that encompass coursework, field trips, and service learning projects.
- Increasing awareness of public health issues and career options among high school students through visits with public health professionals.
- Creating a mentor program for high school students to be paired with members of the UIC Public Health Student Association.
- Recruiting high school students into a Saturday Public Health Academy, a half-day program during which students discuss public health issues and school course selection, as well as engage in a public health research project.

Resource: Shaffdeen Amuwo, Associate Dean for Community, Government and Alumni Affairs, Health Professions Partnership Initiative, University of Illinois at Chicago, School of Public Health, 1601 W. Taylor Street, Suite 152, Chicago, IL 60612 (312) 996-1410 (312) 996-1374 fax hpineda@uic.edu http:www.asph.org/fac_document.cfm/68/68/2942

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Example: The Michigan Public Health Training Center of the University of Michigan School of Public Health at Ann Arbor (a HRSA Bureau of Health Professions Public Health Training Center) aims to enhance the capacity of Michigan's public health system to fulfill its mission by increasing the knowledge and strengthening the skills of Michigan's public health workforce. The Center is developing a comprehensive, coordinated statewide strategy for improving the capacity of Michigan's public health workforce, linking the University of Michigan School of Public Health with all of the State's major public health stakeholders. Part of this capacity-building strategy is to attract more talented youth to enter the field of public health, with emphasis on disadvantaged minority students. In addition to the Center's training activities, the Center will help middle school, high school, and undergraduate students in Michigan develop an understanding of public health and identify careers in public health and related health professions.

Resource: Toby Citrin, Project Director, Michigan Public Health Training Center, University of Michigan School of Public Health, 109 South Observatory, Ann Arbor, MI 48109-2029 (734) 936-0936 (734) 936-0927 fax tcitrin@umich.edu http://bhpr.hrsa.gov/Grants/michigan.htm

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Strategy: Promote health professions in high schools with high minority populations.

Example: Wayne State University School of Medicine began its high school program in 1969. A high school coordinator makes three visits each year to 27 high schools where a program is presented concerning: (1) the need for minority physicians; (2) role models, using a video featuring current underrepresented minority medical students; and (3) issues relevant to high school students, including interviewing for college placement and financial aid for colleges.

Resource: Merlene Chavis, Coordinator for the High School Outreach Programs, Wayne State University School of Medicine, 1320 Scott Hall, 540 East Canfield, Detroit, MI 48201 (313) 577-7825 mchavis@med.wayne.edu http://www.med.wayne.edu/

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Strategy: Establish health professions magnet schools in communities with high minority student populations.

Example: South Texas High School for the Health Professions provides preparatory courses for students from three counties in south Texas to go into nursing, dentistry, and medicine. The school has grown from 400 students in 1988 to more than 700 students in 2000. One graduate won an award in 2000 as the outstanding student in the Humanities, Sciences, and Communications Disorders program at the University of Texas, Panhandle campus. The Rio Grande Valley Empowerment Zone, part of a Federally designated economic and community development initiative, gave $500,000 in support to the High School for the Health Professions.

Resource: Lucy Fernandez, Principal, South Texas Independent School District, South Texas High School for the Health Professions, 100 Med High Drive, Mercedes, TX 78570 (956) 565-2454 (956) 565-4039 fax

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Example: Queens Gateway to the Health Sciences High School in Jamaica, NY, has developed a unique collaboration with Queens Hospital Center and the Mt. Sinai Medical School. At Queens Hospital Center, students take classes, visit clinical areas, do research in the hospital library, and make presentations. Students take after school enrichment courses in the BioSciences Studies Institute, and medical personnel coordinate hands-on workshops at Gateway. The school started in 1994 when it enrolled sixty students with one seventh grade and one ninth grade class. The program expanded, and in September 1998 the school finally settled into its new state-of-the-art building. Facilities now house almost 600 students in grades 7 through 12.

Resource: Mrs. Cynthia Edwards, Principal, Queens Gateway to Health Sciences, 150-91 87th Road, Jamaica, NY 11432 (718) 739-8080

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Strategy: Create health-related jobs programs, internships, and volunteer opportunities for minority youth.

Example: Health-related research programs can apply for Federal resources to hire minority student assistants. Principal investigators holding National Institutes of Health (NIH) grants are eligible to apply for administrative supplements for the support of minority high school students. These supplements provide a stipend for two years. Summer research stipends also are available.

Resource: High School Extramural Programs, Grants Information Division of Extramural Outreach and Information Resources, National Institutes of Health, 6701 Rockledge Drive, MSC 7910, Bethesda, MD 20892-7910 (301) 435-0714 GrantsInfo@nih.gov http://grants.nih.gov/training/extramural.htm

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Example: Project Success opens the door to biomedical careers for high school students from under-represented racial or ethnic backgrounds and/or from a disadvantaged background in Boston or Cambridge, Massachusetts. Students must have completed their sophomore year and demonstrated an interest and ability in science and in pursuing a biomedical-science or health-related career. Students are selected competitively and matched with basic science or clinical investigators in settings within the Harvard Medical School and affiliated institutions. They are provided with a variety of laboratory experiences, acquire state-of-the-art scientific knowledge and technical skills, and increase their understanding of how to conduct biomedical research. Paid summer internships are available for eight-week research opportunities.

Resource: Faries Odom, Minority Faculty Development Program, Harvard Medical School, 164 Longwood Avenue, Boston, MA 02115 (617) 432-4697 (617) 432-3834 fax faries_odom@hms.harvard.edu http://www.mfdp.med.harvard.edu/

College: Undergraduate

Strategy: Establish local programs to prepare undergraduate minority students for admission to and success in health professions schools.

Example: The Medical Education Development Program (MEDP) was established at the University of North Carolina at Chapel Hill in 1974 for under-represented minority seniors, postgraduates, and first year medical and dental students. Participants are exposed to a demanding academic core on the level of beginning medical/dental studies in over 200 scheduled class and laboratory hours in Gross Anatomy, Histology, Physiology, Microbiology/Immunology, and Clinical Biochemistry. A special dentistry theory and technique course is provided for potential dental students. Students also are involved in study, reading and test-taking skills, seminars, workshops, and pre-professional counseling. An evaluation of the program concluded full-time participation significantly increased the number of minority students admitted to medical and dental schools.[20]

Resource: Patrena Benton-Majette Coordinator, MEDP Medical Education Development Program (MEDP), University of North Carolina at Chapel Hill, MacNider Building, CB #7530, 322 Chapel Hill, NC 27599-7530 (919) 966-7673 eternity@med.unc.edu http://www.med.unc.edu/oed/

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Example: To ensure continued outreach and support activities for under-represented minorities, the University of California, Los Angeles (UCLA) School of Public Health created the Diversity Enrichment Program in response to a loss in Federal funding. Unfortunately, further funding cuts in its own operating budget forced the School to discontinue the Diversity Enrichment Program, resulting in the School's Student Services Office absorbing the former activities. Despite the change in venue, the goals of increasing and maintaining a diverse student population in the School remain the same. However, the methods used to achieve these goals have changed. The School recognized that there were many similar outreach and recruitment programs throughout the University, most of which were also suffering funding cuts. As a result, the School pooled its own resources and began working with other University partners to improve student diversity with several new University-wide programs that focus on underserved and educationally and financially disadvantaged students. Developing these programs involved creating partnerships among the community, parents, high schools, middle schools, UCLA undergraduate programs, and UCLA graduate and professional schools. The School shares the University's outreach and recruitment goals, including: (1) use

trained advisors and University resources to assist disadvantaged students in increasing their competitiveness for admission to UCLA; (2) make students aware of the resources and opportunities available to them; and (3) help students explore the undergraduate and graduate degree programs offered by the University. The University-wide programs incorporate tutoring and mentoring, and they provide students with first-hand exposure to the various academic units on campus. Additionally, once the student in a University-wide program decides to apply for a graduate degree, he/she is provided assistance with the Graduate Records Examination preparation and the development of a strong statement of purpose, as well as with other aspects of the application process. The UCLA School of Public Health is an active partner in several of these University-wide programs, and it has enlisted the aid of its students, faculty, alumni, and staff in achieving a more diverse student population.

Resource: Diana Thatcher, Director of Student Services, UCLA School of Public Health, Box 951772, Los Angeles, CA 90095-1772 (310) 825-2856 (310) 825-8440 fax thatcher@ucla.edu http://www.ph.ucla.edu

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Example: Over 30 years ago, Wayne State University School of Medicine began one of the earliest programs in the U.S. to assist under-represented minority students in gaining admission to and in graduating from medical school. The 12-month preparatory program is for under-represented minority students who have applied and been rejected for admission to the Wayne State University School of Medicine. The program has grown from five students in 1969 to 16 students in 2000. Although early funding came from the Health Careers Opportunities Program, the program now is funded by Wayne State University School of Medicine. A 1999 report in *Academic Medicine* indicated 160 students from 1969 to 1997, representing 32 percent of all African American students in the Wayne State Medical School, were graduates of the Post-Baccalaureate program.[21]

Resource: Julia Simmons, Director Office of Minority Programs, Wayne State University, School of Medicine, 1320 Scott Hall, 540 East Canfield, Detroit, MI 48201 (313) 577-0416 jsimmons@med.wayne.edu

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Strategy: Provide internships and field experiences for under-represented minority students to gain exposure to health professions and practice settings.

Example: The Division of Minority Opportunities in Research (MORE) within the National Institutes of Health (NIH) offers programs to significantly increase the number of under-represented minorities who participate in biomedical science research. The Minority Access to Research Careers (MARC) program provides research training opportunities for students from minority groups under-represented in the biomedical sciences. The Minority Biomedical Research Support (MBRS) program supports the development of minority-serving institution's research and research education capability. The Bridges to the Future Program facilitates specific transitions in the career paths of under-represented students interested in the biomedical sciences.

Resource: Director, Division of Minority Opportunities in Research, Minority Access to Research Careers (MARC), Minority Biomedical Research Support (MBRS) Branch, General Medical Sciences, National Institutes of Health, 45 Center Drive, MSC 6200, Bethesda, MD 20892-6200 http://www.nigms.nih.gov/about_nigms/more.html

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Example: The Harvard Medical School Minority Faculty Development Policy Summer Program is a 10-week summer program in health services and health policy research for undergraduate students attending historically Black colleges and Hispanic-serving institutions that participate in the National Institutes of Health Minorities Access to Research Careers program.

Resource: Jeannette Catherwood, Minority Faculty Development Program, Harvard Medical School, 164 Longwood Avenue, Boston, MA 02115 (617) 432-4697 (617) 432-3834 fax jeannette_catherwood@hms.harvard.edu http://www.mfdp.med.harvard.edu/contact.htm

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Example: The National Institute on Drug Abuse (NIDA) sponsors a Summer Research with NIDA program. The program introduces under-represented minority high school and undergraduate students to drug abuse research through research placements with NIDA grantees—faculty in universities around the country. Students work with faculty member grantees for eight to ten weeks

during the summer. The experience may include formal coursework, participation in meetings, data collection activities, data analysis, laboratory experiments, manuscript preparation, and library research. The program provides students experience conducting drug abuse research, thus, encouraging them to pursue careers in biomedical and behavioral research. Since the program's inception in 1997, over 100 students have gained valuable drug abuse research experience and faculty grantees in nearly 45 universities have participated.

Resource: Flair Lindsey, Program Analyst, National Institute on Drug Abuse, 6001 Executive Boulevard, Room 4216, MSC 9657, Bethesda, MD 20892-9567 (301) 443-0441 (301) 480-8179 fax fl20t@nih.gov http://grants.nih.gov/training/careerdev/colopporti.html

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Example: Project Imhotep was established at the Centers for Disease Control and Prevention (CDC) in 1981 to train under-represented minority students in public health. The Public Health Sciences Institute (PHSI) at Morehouse College currently manages Project Imhotep through a CDC cooperative agreement designed to increase the quality and quantity of well-trained under-represented minority public health professionals. Project Imhotep is an eleven-week internship for undergraduate students interested in pursuing careers in public health, with a particular focus on biostatistics, epidemiology, occupational safety and health, and the health sciences. Students are offered opportunities to train with CDC researchers and experts in Atlanta, GA, as well as the National Institute for Occupational Safety and Health laboratories in Morgantown, WV; Cincinnati, OH; Pittsburgh, PA; and Spokane, WA. At the outset of the program, students participate in short, two-week courses on epidemiology, biostatistics, and occupational safety and health. For the remainder of the summer, they work on the analysis of data sets from various Centers, Institutes, and Offices of the CDC. Students prepare and present an oral summary of their research as well as a written report suitable for publication. Junior and senior students from historically Black U.S. colleges and universities, as well as tribal and Hispanic serving institutions, who plan to attend graduate school in public health are eligible to apply.

Resource: Cynthia Trawick, Acting Director, Morehouse College, Public Health Sciences Institute, P.O. Box 121, 830 Westview Drive, SW, Atlanta, GA 30314 (404) 215-2733 (404) 523-1949 fax ctrawick@morehouse.edu http://www.cdc.gov/niosh/imhotep.html or http://www.morehouse.edu/publichealth/imhotep

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Strategy: Offer students preparatory programs to increase minority admissions to health professions schools.

Example: The Association of American Medical Colleges began a residential, summer pre-medical program in 1998, called Minority Medical Education Program (MMEP). The program focuses on sciences, writing skills, test taking, and presentations. Classes are conducted in eight U.S. medical schools for African American, Mexican American, mainland Puerto Rican, and American Indian students who have applied to allopathic medical schools. In 1998, researchers reported in the *Journal of the American Medical Association* that this residential pre-admission program improved the acceptance rate of participating minority students.[22]

Resource: Kevin Harris, Minority Medical Education Program (MMEP), Association of American Medical Colleges, 2450 N Street, NW, Washington, DC 20037 (202) 828-0409 kharris@aamc.org http://www.aamc.org/meded/minority/mmep/start.htm

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Example: The Public Health Summer Fellowship Program is a joint collaboration among the Centers for Disease Control and Prevention (CDC), the Emory University Rollins School of Public Health, and Morehouse School of Medicine. The program is directed toward rising junior and senior undergraduate students of African American, Hispanic, and American Indian descent to encourage and prepare these students to pursue graduate degrees and careers in public health. Twelve to fifteen participants are selected each summer for the eight-week program. Selection is based on the following criteria: (1) high school and college grade point averages; (2) SAT or ACT test scores; (3) letters of recommendation; and (4) evidence of leadership ability as indicated in the student's statement of interest. The program combines academic training with field experiences, using the combined resources of the

collaborating institutions. The academic training consists of an intense 40-hour course introducing the principles of epidemiology and public health practice, a weekly seminar series on timely public health issues, and enrollment in one graduate public health course offered by the Rollins School of Public Health.

Resource: Pam Johnson, Program Coordinator, Public Health Summer Fellowship Program, Health Promotion Research Center, Morehouse School of Medicine, 720 Westview Drive, Atlanta, GA 30310-1495 (404) 752-1649 (404) 752-1521 fax pjohnson@msm.edu http://www.cdc.gov/hrmo/train.htm

College: Post-Graduate

Strategy: Provide under-represented minority health professions graduate students with specialty training to reduce health disparities through community-based research and practice.

Example: The Minority Health Professions Foundation was established in 1983 to:

- Promote and support research contributing to the advancement of scientific knowledge and treatment of diseases, with a special emphasis on health issues that disproportionately or differently affect minority and poor people.
- Cultivate new generations of health professions scholars to address the complexity and contextual nature of minority health issues.
- Support efforts to improve the quality and availability of health care to minority and under-served populations.

The Foundation accomplishes these goals by engaging the collaborative resources, scholarships, and technology of minority health professions colleges and universities. The 12 member institutions of the Foundation include one school of veterinary medicine, four medical schools, two dental schools, and five pharmacy schools in Historically Black Colleges and Universities (HBCUs). According to the Foundation, these institutions have produced 50 percent of the Nation's African American physicians and dentists, 60 percent of the African American pharmacists and more than 75 percent of the Nation's African American veterinarians.

Resource: Carol B. Lewis, Minority Health Professions Foundation, 3 Executive Park Drive NE, Suite 100, Atlanta, GA 30329 (404) 634-1993 (404) 634-1903 fax clewis@minorityhealth.org http://www.minorityhealth.org

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Example: The Hispanic Fellowship Program provides full tuition support and research assistantship opportunities for qualified Hispanic students to work towards a Master of Public Health (MPH) degree at Columbia University's Joseph L. Mailman School of Public Health in the Division of Population and Family Health. The Division's MPH program: (1) teaches students how to develop, administer, and evaluate programs and policies focusing on reproductive, adolescent, and child health issues; (2) allows students to become involved in service-based delivery for the mostly Hispanic population in northern Manhattan's Washington Heights neighborhood; and (3) offers students a curriculum taught by a diverse set of professionals, including public health practitioners, sociologists, psychologists, lawyers, physicians, and social workers. Through reproductive, adolescent, and child health programs in the Division of Population and Family Health, fellowship recipients are provided with rich and varied training opportunities while completing MPH coursework. Examples of Division-run programs include family planning clinics for men and women, school-based health clinics, and a home-based Head Start program. Applicants for this fellowship must be of Hispanic descent and have a Bachelor's degree, prior public health work experience with Hispanic populations, and a commitment to serving Hispanic populations in the future.

Resource: Caroline Kay, Assistant Director, Academic and Student Affairs Division of Population and Family Health, The Joseph L. Mailman School of Public Health of Columbia University, 60 Haven Avenue, B-3, New York, NY 10032 (212) 304-5261 (212) 305-7024 fax cck11@columbia.edu http://cpmcnet.columbia.edu/dept/sph-old/popfam/teach/hfp.html

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Example: The Phoenix Fellowship in Joseph L. Mailman School of Public Health of Columbia University is a one-year full or partial tuition scholarship for students who demonstrate financial need and who are interested in serving and gaining research experience with historically under-served communities. Funded by HRSA's Bureau of Health Professions, the fellowship is awarded to masters level students who have overcome obstacles to their academic progress.

Resource: Moira Walter, Administrative Coordinator of Student Services, The Joseph L. Mailman School of Public Health of Columbia University, Community and Minority Affairs, 600 West 168th Street, New York, NY 10032 (212) 305-0541 (212) 342-1830 fax mdw2@columbia.edu http://cpmcnet.columbia.edu/dept/sph/financialaid/scholarshipprog.html

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Example: The Prevention Research Center at The School of Public Health at Saint Louis University offers a traineeship entitled "Eliminating Health Disparities" to African-American students enrolled in their graduate degree programs. The program's six components include: completion of coursework in pursuit of a graduate degree in public health; participation in a weekly seminar, "Understanding and Eliminating Health Disparities;" completion of two semesters working on community-based chronic disease prevention research projects; participation in a policy practicum with the Missouri Department of Health and the Missouri State Legislature; completion of an independent community-based research project; and regular interaction with professional role models from local, State, and national organizations.

Resource: Dr. Darcell P. Scharff, Eliminating Health Disparities Prevention Research Center, The School of Public Health at Saint Louis University, 321 N. Spring Avenue, St. Louis, MO 63108 (314) 977-4009 scharffd@slu.edu http://www.slu.edu/colleges/sph/centers/prc/

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Strategy: Provide minority college graduates preparatory training for graduate work in scholarly research in the health professions.

Example: The Vanderbilt University Bridges Program, *A Bridge from the Masters to the Doctoral Degree in the Biomedical Sciences,* joins with six other universities to provide a track from the MS at the home institution to the Ph.D. at Vanderbilt. The six partner institutions are Barry University, Clark Atlanta University, Fisk University, Florida A & M University, Tuskegee University, and the University of Puerto Rico at Mayguez. The Program provides support for tuition and research assistantships at the home institution, plus a 10-week summer experience in laboratory work, preparatory classes, and presenting seminars, called "Preparing for the Ph.D." MS students of African-American descent, who are either permanent residents or US citizens, are encouraged to apply. Eligible non-partner MS students may join pending agreement from their home institution.

Resource: Louis J. DeFelice, Office of Minority Affairs, Vanderbilt University Bridges Program, Professor Pharmacology, 410 Medical Research Building I, Nashville, TN 37235, (615) 343-6278, lou.defelice@mcmail.vanderbilt.edu, http://bret.mc.vanderbilt.edu/minority/html/Bridges.htm

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Strategy: Promote or provide under-represented minority pre- and post doctoral fellowships and faculty grants to conduct medical and other health-related research.

Example: Since 1984, The Bristol-Myers Squibb Fellowship Program in Academic Medicine for Minority Students has provided more than 280 underrepresented minority medical students an opportunity to conduct a research project under the directions of an experienced biomedical researcher serving as the student's mentor. Each year Bristol-Myers Squibb selects 32 students for $6,000 awards. The program is open to U.S. citizens - African American, mainland Puerto Rican, Mexican American, or American, or American Indian students in a degree-granting medical school accredited by the Liaison Committee on the Medical Education of American Medical Colleges or a degree-granting program of the American Osteopathic Association.

Resource: Nisha Bryan, Bristol-Myers Squibb, Fellowship Program in Academic Medicine for Minority Students, National Medical Fellowships, 5 Hanover Square, 15th floor, New York, NY 10004 (212) 483-8880 (212) 483-8897 fax webmaster@nmfonline.org http:/www.nmfonline.org

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Example: The NIH Office of Extramural Research offers more than 50 post-doctorate and faculty extramural grant programs, including research, loan repayment, epidemiological training, travel fellowships, and dental training. Grants are awarded to both individuals and institutions, including State-supported programs.

Resource: NIH Post-doctorate & Faculty Opportunities Research Training & Career Development Programs http://grants.nih.gov/training/careerdev/pdfopportindex.html

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Example: The Agency for Healthcare Research and Quality offers "F31" awards for pre-doctoral fellowships to minority students. This program is designed to increase racial and ethnic diversity in the health services research sciences. The fellowship provides up to five years of support for research training leading to the M.D./Ph.D. degree, the Ph.D., or an equivalent research degree. This support is not available for individuals enrolled in a medical or professional school program unless it is a combined professional doctorate/Ph.D. degree program. Applications are accepted twice a year in May and November.

Resource: Shelley Benjamin, Division of Research Education, Office of Research Review, Education, and Policy, Agency for Healthcare Research and Quality, 2101 East Jefferson Street, Suite 400, Rockville, MD 20852 (301) 594-1449 (301) 594-0154 fax training@ahrq.gov http://www.ahrq.gov/fund/minortrg.htm

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Example: The Commonwealth Fund/Harvard University Fellowship in Minority Health Policy is designed to prepare physician-leaders with expertise and interest in minority health to pursue careers in health policy, public health practice, and academia. This is a one-year academic, degree-granting program providing five annual fellowships. Support includes a stipend, full tuition for a masters degree, health insurance, books, travel, and financial assistance for a project. This fellowship is a collaborative effort by the Harvard Medical School, Harvard School of Public Health, and the Kennedy School of Government. For physician graduates of the Commonwealth Fund/Harvard University Fellowship in Minority Health Policy, the HRSA Senior Minority Health Policy Internship is a one to two-year internship that places alumni fellows in regional HRSA offices.

Resource: Joan Y. Reede, Program Director, The Commonwealth Fund/Harvard University Fellowship Minority Faculty Development Program; Harvard Medical School, 164 Longwood Avenue, Room 210, Boston, MA 02115 (617) 432-2313 (617) 432-3834 fax Joan_Reede@hms.harvard.edu http://www.mfdp.med.harvard.edu/contact.htm

College: Faculty

Strategy: Establish posts for minority professionals in academia to act as role models.

Example: Minority Faculty Fellowships provide health professions training programs financial support to increase their numbers of faculty from underrepresented minorities. Stipends awarded through this program, up to 50 percent of a regular faculty member's salary for a three-year period, may be used by grantees to help train minority faculty.

Resource: Minority Faculty Fellowship Program, Armando Pollack, Program Officer, Division of Health Professions Diversity, Bureau of Health Professions, Health Resources Services Adnministration, 5600 Fishers Lane, Room 8A-09, Rockville, MD 20857 (301) 443-2981 (301 443-5242 fax http://bhpr.hrsa.gov/dhpd/home.htm

At a Glance: Minorities in the Health Professions

Race/Ethnic Origin 1999-2000

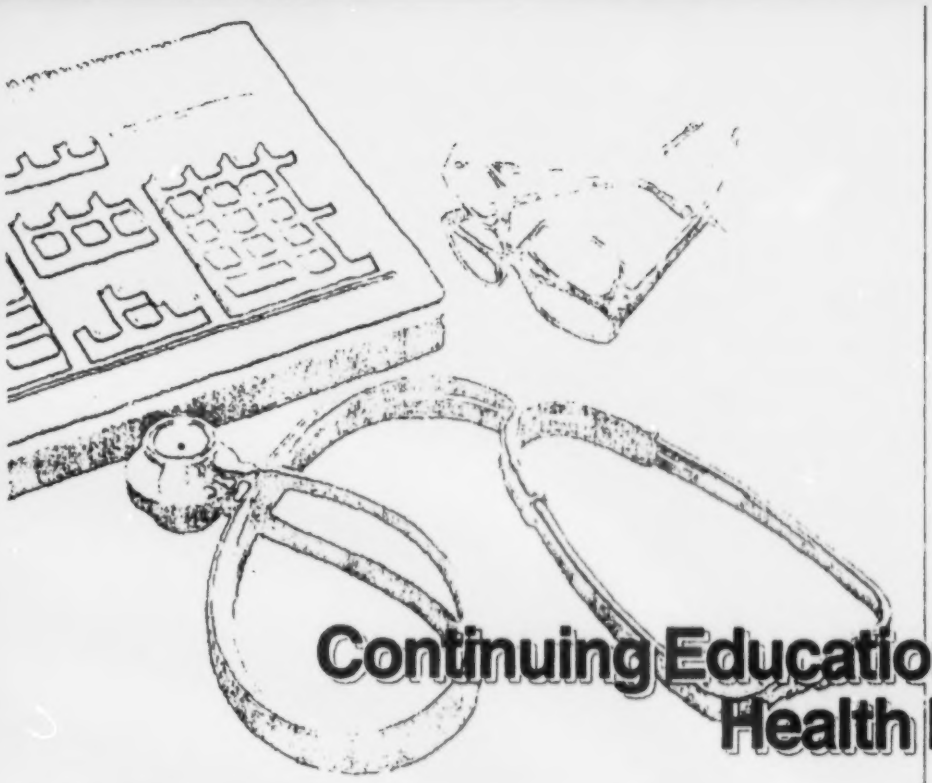
Selected health occupations (1999-2000) & mean annual wage (1998)

	Hispanic*	White	African American/ Black	Am Ind, Esk Aleut	API**	Total	Mean Annual Wage In Dollars, 1998
Percent of Total Population	11.8%	72%	12.2%	0.7%	3.9%	100%	
Managers, medicine and health	5.3%	83%	8.4%	0.4%	3.2%	100%	82,340
Physicians	3.8%	73%	5.5%	0.1%	17.5%	100%	102,020
Dentists	2.4%	89%	1.5%	0.2%	7.1%	100%	92,350
Optometrists	3.9%	85%	0.0%	0.0%	11.0%	100%	85,470
Podiatrists	6.8%	87%	6.0%	0.0%	0.0%	100%	75,200
Registered nurses	3.0%	82%	9.2%	0.4%	5.7%	100%	43,070
Pharmacists	3.4%	76%	6.2%	0.3%	14.2%	100%	80,090
Dietitians	2.9%	69%	20.4%	0.3%	7.7%	100%	38,100
Respiratory therapists	3.0%	73%	18.6%	0.0%	5.6%	100%	35,880
Occupational therapists	2.8%	90%	5.6%	1.3%	0.7%	100%	51,260
Physical therapists	6.9%	79%	6.7%	0.8%	6.2%	100%	57,190
Speech therapists	4.5%	93%	2.2%	0.0%	0.7%	100%	48,010
Physicians assistants	5.3%	88%	2.0%	0.4%	4.1%	100%	48,780
Social workers	7.7%	65%	23.0%	1.4%	2.5%	100%	34,100
Clinical laboratory technologists and techs	6.7%	65%	19.4%	1.0%	7.6%	100%	33,329
Dental hygienists	2.0%	95%	2.4%	0.1%	0.4%	100%	48,570
Health record technologists and technicians	0.9%	67%	24.1%	0.9%	7.2%	100%	21,980
Radiologic technicians	6.7%	82%	10.2%	0.2%	1.4%	100%	34,340
Licensed practical nurses	4.6%	73%	18.9%	0.8%	2.8%	100%	28,040
Dental assistants	7.8%	81%	5.9%	0.4%	4.7%	100%	23,330
Health aides, except nursing	9.9%	59%	25.3%	1.0%	4.6%	100%	19,184
Nursing aides, orderlies, and attendants	9.3%	52%	33.9%	1.2%	3.2%	100%	17,300

NOTES: Race/ethnicity percentages are estimates generated from Current Population Survey data from 1999 and 2000 [Bureau of Labor Statistics (BLS), Census Bureau]. Wage data are estimates from the Industry - Occupation Matrix (BLS). Data include only licensed and other occupations from the health professions. National race/ethnicity data on individuals in these disciplines who work in the public health sector are not separately identifiable. These data were compiled by Michael J. Dill, Center for Workforce Development, SUNY, Albany, New York.

Under-represented Minorities means with respect to a health profession, racial and ethnic populations that are underrepresented in the health professions relative to the number of individuals who are members of the population involved, to include Blacks or African Americans, American Indians or Alaska Natives, Native Hawaiians or other Pacific Islanders, Hispanics or Latinos, and certain Asian subpopulations other that Chinese, Filipino, Japanese, Korean, Asian Indian or Thai.

Hispanic* = A person of Cuban, Mexican, Puerto Rican, South or Central American or other Spanish culture or origin, regardless of race.
API** = [Asian or Pacific Islander] A person having origins of Far East, Southeast Asia, or Pacific Islands.



Continuing Education for Public Health Employees

Objective 23-8
(Developmental) Increase the proportion of Federal, Tribal, State, and local agencies that incoporate specific competencies in the essential public health services into personnel systems.

Objective 23-10
(Developmental) Increase the proportion of Federal, Tribal, State, and local public health agencies that provide continuing education to develop competency in essential public health services for their employees.

Public health leaders care about these objectives because:

- Well-prepared workers and continuous learning are essential to public health.
- Assuring a competent public health workforce is an essential public health service.[23]

Issue Summary

There is a long tradition of continuing education and training in public health. The Healthy People 2010 continuing education objectives challenge public health agencies, particularly State agencies, to do more and better in assuring a competent public health workforce. Coordinating, improving, and expanding current training programs can fill many of the Nation's important workforce development needs.

Public Health's diverse and multi-disciplinary workforce requires well-planned, competency-based continuing education. The consensus of a panel of experts is that as many as four-fifths of the estimated 500,000 public health workers do not have formal academic training in the discipline of public health.[24] These experienced workers often contribute expertise from other disciplines and depend on employee on-the-job training and continuing education to ensure they have the necessary skills and knowledge to effectively perform their public health duties. Public health agencies therefore must ensure their employee training programs are carefully designed to cover the core public health competencies. [25] While State and local public health agencies do not necessarily have to develop and deliver the employees training program, they need to ensure its adequacy and availability. Job training gaps can leave workers unprepared for many public health challenges. Now, more than ever, a properly trained and prepared

public health workforce is required to address new dangers, such as emerging and drug-resistant diseases, increases in rates of violence and injury, and threats of bioterrorism attacks.

Continuing education for core competencies helps your workforce maintain its current skills and develop new knowledge, skills, and abilities. Competencies in the areas such as communication, needs assessment, health planning, budgeting, surveillance, and the application of research findings are critical for workers in dealing with the health status disparities and other changing health conditions of a growing, multi-ethnic population. In addition to the basic knowledge and skills in public health, public health workers also should have specific competencies in their areas of specialty, interest and responsibility.

Competencies are the building blocks of performance at the agency level, as well as the individual level. Because disciplines and numbers of employees vary by agency resources, policies, needs, and populations served, leaders may choose the combination of public health competencies most important to individual employees, agencies, and communities. Employees' combined area of expertise enables organizations and systems to provide the Essential Public Health Services. Including references to these competencies in the formal personnel system makes meeting these standards more achieveable.[25]

The Ten Essential Public Health Services

Public Health agencies serve communities and individuals within them by providing an array of essential public health services. A defined set of Ten Essential Public Health Services was adopted in 1994 by the Public Health Functions Steering Committee, a group of leading public health organizations. Today, this nationally recognized list serves as a common framework for public health training, communications, and performance measurement. The essential services are:

1. Monitor health status to identify community health problems
2. Diagnose and investigate health problems and health hazards in the community
3. Inform, educate, and empower people about health issues
4. Mobilize community partnerships to identify and solve health problems
5. Develop policies and plans that support individual and community health efforts
6. Enforce laws and regulations that protect health and ensure safety
7. Link people to needed personal health services and assure the provision of health care when otherwise unavailable
8. Assure a competent public health and personal health care workforce
9. Evaluate effectiveness, accessibility, and quality of personal and population-based health services
10. Research for new insights and innovative solutions to health problems

For more information concerning the Ten Essential Public Health Services, visit:

- Public Health Functions Project: http://www.health.gov/phfunctions/
- American Public Health Association: http://www.apha.org/ppp/science/10ES.htm

Low levels of training and high workforce turnover rates may impact public health

Studies of both State and local public health agencies document the difficulty in training and retaining staff with the necessary knowledge and skills. The effective delivery of public health services hinges upon having highly qualified workers.[27,28]

Although the evidence is anecdotal, low training budgets in State health departments may be a factor in high workforce turnover rates. In 1997-1998, the South Carolina State health department lost 88 nurses while the numbers of nurses employed in hospitals during that period increased by almost 1,000. Other categories of private nursing employment also increased that year. The chief of South Carolina's Office of Research and Statistics attributes high public health nursing turnover to low training budgets. The lack of continuing education opportunities can force nurses out of the public arena into the private health workforce in hospitals, physicians' offices, or other private settings.[29]

Training contributes to organization productivity

Although the "bottom line" benefits of training in public health are not completely understood, a growing body of studies in business management provides evidence worker training can make an important contribution to productivity. However, experts recommend training be combined with other "high performance work practices," including rewarding employees for performance and permitting employees to make contributions beyond the day-to-day routine. Specific research findings include: (1) training and flexible human resource systems are associated with higher levels of productivity and quality in matched firms;[30] and (2) there is a positive association of training with financial performance.[31]

This section provides a range of activities you can use in your State to develop the resources and training that will result in a more effective public health workforce.

Achieving a Competent Public Health Workforce through Continuing Education

Strategy Summary

Healthy People Objectives 23-8 and 10

Comprehensive Training Programs

- Access competency-based training through State and regional public health training programs.
- Hold regular training programs de signed around worker needs and community public health priorities.
- Use prevention issues and outcomes to interest State legislatures in funding or pooling resources for competency-based training programs.

Build Systems that Support Training

- Evaluate public health managers on their efforts to maintain a competent workforce.
- Develop or improve data systems to track employee education and training, particularly linked to competencies.
- Establish tuition reimbursement and other policies, such as time off and use of work time for computer-based training, to help employees gain continuing education based on the core competencies.
- Educate managers and human resources executives to understand nationally defined public health core competencies.
- Establish credentials and competency-based training requirements for public health workers.

Training for Competencies

- Establish partnerships with colleges and universities to meet mutual practice and training needs of both public health employees and students.
- Tap into Federal resources and models to provide training to diagnose community health problems and respond to health hazards.
- Develop a standard training program for all new public health agency employees.
- Focus continuing education to maintain and develop competencies in managers.
- Mobilize workforce development partnerships with public health leadership institutes.
- Publicize available training opportunities among public health agency leaders and staff.

Achieving a Competent Public Health Workforce through Continuing Education

Strategy Examples and Resources

Following are detailed examples of strategies to increase the proportion of public health agencies offering competency-based continuing education. Resources for additional information also are included.

Comprehensive Training Programs

Public Health Training Centers Coverage Area

Alaska
Hawaii
Tulane University New Orleans, LA
Boston University Boston, MA
U. of Washington Seattle, WA
U. of North Carolina Chapel Hill, NC
University of Michigan Ann Arbor, MI
University of Pittsburgh Pittsburgh, PA
University of Texas-HSC Houston, TX
UCLA Los Angeles, CA
States Not Covered

Strategy: Access competency-based training through State and regional public health training programs.

Example: HRSA funded eight Public Health Training Centers in 2000 to serve the existing public health workforce. The Centers' training activities provide a foundation to improve the infrastructure of the public health system and help to achieve the objectives of Healthy People 2010. Established in schools of public health, the Centers serve designated geographic areas.

The Training Centers are:

- South Central Public Health Training Center-Tulane School of Public Health and Tropical Medicine, New Orleans, Louisiana
- Michigan Public Health Training Center-The University of Michigan School of Public Health, Ann Arbor, Michigan
- Texas Public Health Training Center-University of Texas Health Science Center at Houston, Houston, Texas
- New England Public Health Workforce Develoment Alliance - School of Public Health, Boston University, Boston, Massachusetts
- Northwest Public Health Training Center-School of Public Health and Community Medicine, Department of Health Services, Seattle, Washington
- Southeast Public Health Training Center-University of North Carolina at Chapel Hill, School of Public Health, Chapel Hill, North Carolina
- Pennsylvania and Ohio Training Center-Center for Public Health Practice, University of Pittsburgh, Graduate School of Public Health, Pittsburgh, Pennsylvania
- Pacific Public Health Training Center-University of California, Los Angeles, California.

Resource: John Kress, Center for Public Health, Bureau of Health Profession, Health Resources and Services Administration, 5600 Fishers Lane, Room 8-103, Rockville, MD 20857 (301) 443-6853 (301) 443-0065 fax jkress@hrsa.gov http://www.bhpr.hrsa.gov/Grants2001/phtc.htm

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Example: The Regional Institute for Health and Environmental Leadership in Colorado and Wyoming provides opportunities to fellows including health department practitioners, private health workers, and environmental health professionals. Fellows are mid- to upper-level professionals who already have training and experience and find themselves "... hungry to learn ways to be more effective leaders." The Institute believes health and the environment are linked and future advances can occur only in partnership with the private sector. The Institute is a consortium of universities (University of Colorado Health Sciences Center and the University of Denver) and the Colorado Department of Public Health. Four on-site events of three days duration are held at various locations around this large region in the year-long program. Using a web site, fellows communicate concerning interactive assignments and discussions about case studies, books, group projects, and collaborative problem-solving activities. The participants are viewed as partners, while the faculty act as consultants—obstacles to non-traditional teaching and learning are overcome through team efforts.[32]

Resource: Kathy Kennedy, Director, Regional Institute for Health and Environmental Leadership, University of Denver, 2101 S. University Boulevard, Suite 280, Denver, CO 80208 (303) 871-3483 (303) 758-5660 fax kkennedy@du.edu http://mama.uchsc.edu/rli/

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Example: The South Central Partnership for Public Health Workforce Development ("the Partnership") assessed 800 public health professionals in Alabama, Arkansas, Louisiana, and Mississippi to identify which of the Ten Essential Public Health Services and attendant competencies were required in their jobs. In response to the greatest needs, the Partnership developed four courses on three levels of complexity: (1) orientation to the essentials of public health; (2) management concepts for public health programs; (3) community partnerships and perspectives; and (4) web-based technology. Other educational needs will be filled by courses in technical writing and presentation skills, research, policy development, grant writing, organizational change, cultural diversity, and media relations/public relations. This project was funded through an Association of Schools of Public Health/HRSA Cooperative Agreement (1998-1999) and was one of two demonstration projects funded prior to development of the HRSA Public Health Training Centers. The Partnership, now a HRSA Public Health Training Center, involves health officials from each of the States it serves, which helps build top-down commitment to provide employee training.

Resource: Ann C. Anderson, Acting Dean, South Central Public Health Training Center, Tulane University Medical Center, School of Public Health and Tropical Medicine, 1440 Canal Street, Suite 2210, New Orleans, LA 70112 (504) 588-5397 (504) 588-5718 fax Ann.Anderson@Tulane.edu http://www.tulane.edu/7Esphtm/ [click on Centers]

* * *

Example: The Pennsylvania and Northeast Public Health Workforce Training Project tested the idea that training public health workers in the "universal competencies"[33] would meet the perceived needs and priorities of agency supervisors in the field. The project had two phases. First, State and local agency supervisors selected high-priority competencies from among the 39 universal competencies for public health professionals. Priority selection was based on the training supervisors believed was needed for their professional employees. Second, a regional and national advisory committee, including academicians, professional leaders, and Federal agencies, reviewed the findings and recommended competencies for a model training agenda. The results tended to confirm the usefulness of the competency framework for identifying training priorities. Although the agency supervisors had differences in their training priority selections, the differences could be accommodated in a standardized training agenda. High-priority competencies as chosen by the supervisors tended to be those useful to many professional groups and job categories of employees. Conversely, low-priority competencies tended to be those needed by more specialized employees. Both State and local supervisors agreed the universal competencies were incomplete in two ways: (1) they did not include an understanding of the history, values, methods, laws, and systems of public health; and (2) they omitted any technical topics agency staff might require at various times. Nevertheless, the competency framework provided a commonly understood language for agency supervisors and public health leaders to define a basic training agenda. This training needs assessment was developed with agency supervisors from six northeastern States. It also may be a useful starting point for developing a national training curriculum.[34] This project was funded initially through an Association of

Schools of Public Health/HRSA Cooperative Agreement (1998-1999) and has become a HRSA Public Health Training Center.

Resource: Margaret A. Potter, Associate Dean & Director, Center for Public Health Practice, University of Pittsburgh Graduate School of Public Health, 125 Parran Hall, Pittsburgh, PA 15261 (412) 624-3496 (412) 624-8679 fax Maggie@gsphdean.gsph.pitt.edu http://www.cphp.pitt.edu/training/curriculum.htm

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Strategy: Hold regular training programs designed around worker needs and community public health priorities.

Example: The Pennsylvania Department of Health, Bureau of Community Health Services, holds biennial Public Health Institutes (PHIs), lasting two to five days and focusing on skill development. The PHIs offer a combination of courses, workshops, panel discussions, and speakers. In addition to faculty providing services in the courses they are teaching, Institute staff engages speakers with national recognition due to either their positions or information/research concerning a developing public health trend. Nursing, Certified Health Education Specialist (CHES), and Drug and Alcohol certification credits are offered at all Institutes. An Institute Training Advisory Committee provides input into workforce training needs in addition to a yearly needs assessment sent to all Department public health staff. Two Institutes were held in 2000.

Resource: Nancy Sponeybarger, Administrator, Public Health Institutes, Pennsylvania Department of Health, Health & Welfare Building, Room 628, Harrisburg, PA 17120 (717) 787-4366 nsponeybar@state.pa.us http://www.health.state.pa.us/php/Public_Health_Institute/default.htm

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Example: "Public Health Nursing Practices for the 21st Century: Competency Development in Population-based Practice National Satellite Learning Conference" was a series of three sessions broadcast nationally via satellite and funded by HRSA's BHPr. The three sessions were designed to enable participants to: (1) define population-based public health nursing practice; (2) identify 17 interventions used by nurses in public health nursing practice; (3) describe how public health nursing is similar to, but different from its two base disciplines—public health and nursing; (4) differentiate between health status and intermediate outcome indicators; (5) select outcome indicators for purposes of evaluation; and (6) understand best practices for assuring success in implementing public health nursing interventions selected to address community health assets or problems. Continuing education nursing contact hours were available. Contact hours were awarded for each of the three sessions. Videotapes are available by e-mail request: BRISKL1@mdh-hpsc2.health.state.mn.us.

Resource: Mary Rippke, Director of Public Health, Nursing Division of Community Health Services, Minnesota Department of Health, 121 East 7th Place, St. Paul, MN 55164-0975 (651) 296-9798 (651) 296-9362 fax Mary.rippke@health.state.mn.us http://www.health.state.mn.us/divs/chs/phn/national.html

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Strategy: Use prevention issues and outcomes to interest State legislatures in funding or pooling resources for competency-based training programs.

Example: After previous strategies were unsuccessful, the West Virginia Bureau for Public Health convinced the State legislature to revamp the public health workforce training system. This was accomplished by demonstrating many early deaths in the State could be avoided through preventive measures. The State first began re-assessing its public health workforce following the Institute of Medicine's (IOM) 1988 statement in *The Future of Public Health* [35] that the public health system nationwide was in "disarray." (West Virginia was one of 15 States studied by IOM for its report.) By 1991, three local groups formed a partnership to focus on serious infrastructure concerns. In 1993, the groups published a paper, "Public Health in the Reformed State Health Care System," calling for the creation of a school of public health in the State with ties to public health employees, expanded data collection, disease surveillance, and outcomes monitoring. Another question the partnership considered was the amount of money allocated to permanent continuing education as opposed to "ad hoc" training. Their plan called for a commitment of resources to provide significant training for public health staff. This 1993 report was folded into a 1994 package of health care reform legislation which failed to pass the legislature. The West Virginia public

health community worked together one more time—as the Public Health Advisory Council (PHAC) appointed by the Commissioner of the Bureau of Public Health—to create an improvement plan to be put into place over a three to five year period. The plan indicated a serious need for certain public health services as well as a lack of priority for public health funding. Specifically, the new plan showed more than 70 percent of West Virginia citizens who were lost to "early death" could have benefited from preventive services while a little more than 10 percent would have benefited from medical services. In fact, PHAC discovered that of over $5.5 billion spent annually on health care in West Virginia, less than one percent was spent on prevention. Ultimately, these arguments were successful in securing funds for public health training throughout the State. In 1997, the legislature began funding the West Virginia Public Health Transitions Project, with a mission to refocus the public health system in West Virginia to providing basic public health services to every citizen. By 2000, the technical assistance and training needs of local health departments had been prioritized to accomplish local health standards for prevention and control. Workforce development is a policy recommendation included in the State Health Plan for 2000-2002. While State legislatures may not be interested in the issue of training *per se*, by providing them with the facts on important health issues - lowering the numbers of early deaths in their States with prevention measures - they may be willing to support legislation to provide new training opportunities.

Resource: Cathy Taylor, Workforce Development Coordinator, West Virginia Bureau for Public Health, 350 Capitol Street, Room 702, Charleston, WV 25301-3712 (304) 558-0051 (304) 558-1035 fax cathytaylor@wvdhhr.org http://www.wvdhhr.org/bph/

Build Systems that Support Training

Strategy: Evaluate public health managers on their efforts to maintain a competent workforce.

Example: The Arlington County Health Director reported that managers are expected to spend their training funds. They are not rewarded for "savings" in this area, although they are normally applauded when they cut costs.

Resource: Susan Allan, Health Director, Arlington County, Department of Human Services, 1800 North Edison Street, Arlington, VA 22007-1938 (703) 228-4992 (703) 228-5233 fax sallan@co.arlington.va.us http://www.co.arlington.va.us/dhs/

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Strategy: Develop or improve data systems to track employee education and training, particularly linked to competencies.

Example: The West Virginia Bureau for Public Health, Division of Personnel has automated all personnel files to include educational data on all State and local health department employees.

Resource: Cathy Taylor, Workforce Development Coordinator, West Virginia Bureau of Public Health, 350 Capitol Street, Room 702, Charleston, WV 25301-3712 (304) 558-0051 (304) 558-1035 fax cathytaylor@wvdhhr.org http://www.wvdhhr.org/bph/

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Example: The University of Arizona College of Public Health (COPH) conducted in 2000 an analysis of the Arizona public health workforce,

"Despite years of budget reductions, the one thing I have never cut in my health department budget is training. Especially when the budget is cut, public health workers need training for refreshment and for working smarter when we are reducing our workforce."

Susan Allan
Health Director
Arlington County
Department of Human Services

studying both its composition and continuing education needs. COPH invested its own funds in the study for two main reasons. First, COPH wanted to learn more about the current public health workforce so it could better prepare public health professionals for the field and better understand the training needs of the current workforce. In addition, it wanted to determine the most effective balance of graduates and undergraduates the College should be admitting each year. Second, COPH hoped that by having good data about the State's public health workforce it would be in a better position to pursue funding from private or public sources to carry out needed training. The Arizona team conducted an organizational census of the State, county, and tribal health departments, non-governmental organizations, and the Indian Health Service to determine the total number of workers, their occupational categories, and the overall range of salaries, education levels, and age of the workers. Additionally, COPH sent individual surveys to a sample of public health workers to gather detailed information related to these categories, as well as gender, race/ethnicity, language capabilities, public health work experience, and preferences regarding continuing education formats (e.g., continuing education at work or a central location, formal classes at a college or university, or a formal degree program). Although the analysis was not completed at the time of publication, some of the early results showed that public health nurses had not received any specialized training, a large percentage of upper management had no health background, and more than half of the public health workers had less than a bachelor's degree and earned under $30,000 per year. The COPH hopes to work in partnership with the Arizona Department of Health Services to develop and secure funds to implement a continuing education plan for State public health employees, stratified according to their background and needs identified by the study. Another intended use of the findings is to subsequently develop training programs for local public health workers, ideally building upon the State's available distance learning infrastructure, including the Telemedicine connections and the Health Alert Network.

Resource: Catharine M. Riley, Continuing Education Coordinator, University of Arizona College of Public Health, 4001 N. Third St., Suite 415 Phoenix, AZ 85012 (602) 631-6540 (602) 631-6560 fax rileyc@u.arizona.edu http://www.publichealth.arizona.edu

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Strategy: Establish tuition reimbursement and other policies, such as time off and use of work time for computer-based training, to help employees gain continuing education based on the core competencies.

Example: The State of Vermont provides tuition reimbursement and educational leave for courses related to an employee's current duties, career development, or job advancement. The Vermont Department of Personnel operates a statewide training center offering employee development programs.

Resource: Gail Rushford, Personnel Officer Vermont Department of Health, 108 Cherry Street, P.O. Box 70, Burlington, VT 05402 (802) 863-7281 (802) 865-7754 fax gailr@wpgate1.ahs.state.vt.us http://www.state.vt.us/health/

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Strategy: Educate managers and human resources executives to understand nationally defined public health core competencies.

Example: The Council on Linkages Between Academia and Public Health Practice developed a list of core competencies for public health professionals, released in May 2001. The list builds upon 10 years of work defining skills and competencies, the literature, and insights from public health practitioners and academicians. These nationally recognized, defined competencies are linked to the Ten Essential Public Health Services and will be used widely as a framework for training and personnel systems. The Council is comprised of leaders from national public health practice and academic organizations. The Council is supported by the HRSA's Bureau of Health Professions through a cooperative agreement with the Association of Schools of Public Health. See Appendix B for the May 2001 list of core public health competencies.

Resource: Dianna Conrad, Project Director, Public Health Core Competencies Project, Council on Linkages Between Academia and Public Health Practice, Public Health Foundation, 1220 L Street, N.W., Suite 350, Washington, DC 20005 (202) 898-5600 (202) 898-5609 fax dconrad@phf.org http://www.TrainingFinder.org/competencies/

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Strategy: Establish credentials and competency-based training requirements for public health workers.

Example: By statute, New Jersey requires local health officers to have a masters degree and successfully complete a written examination for licensure. To maintain licensure, a health officer must complete 15 hours of approved continuing education courses per year, 8 hours of which must be in leadership training. In 1998, licensed Registered Environmental Health Specialists also were required to earn annual continuing education credits to maintain a current license.[36] A Public Health Professional Continuing Education Committee (PHPCEC), comprised of members of various professional health organizations in New Jersey, serves as an advisory body to the Office of Local Health, New Jersey Department of Health and Senior Services, to recommend curricula appropriate to health officers and registered environmental health specialists. All courses must meet the criteria established by regulation and address the workforce competencies outlined in the report, The Public Health Workforce: An Agenda for the 21st Century. An excerpt of these competencies is available at http://www.state.nj.us/health/lh/appende.htm. Courses approved for contact hours by the Office of Local Health are posted regularly on the department's web site. Three Regional Administrative Centers distribute distance learning course announcements to 21 county downlink sites, open to a broad range of public health professionals who participate despite no statutory requirement.[37]

Resources: William Jamison, Distance Learning Coordinator, New Jersey Department of Health and Senior Services, P.O. Box 360, Trenton, NJ 08625 (609) 984-7160 (609) 984-5474 fax wjamison@doh.state.nj.us http://www.state.nj.us/health/lh/olhedu.htm. The Public Health Workforce: An Agenda for the 21st Century (1997) Department of Health and Human Services, Public Health Service Government Printing Office Washington, DC http://web.health.gov/phfunctions/pubhlth.pdf-download in Acrobat Reader (202) 205-4872 - orders for printed copies

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Example: Washington State provides training in seven competency areas for local health officers (LHOs). The training helps LHOs fulfill their responsibilities as health officers and meet State credential and training requirements. Washington State law[38] requires that local health officers be licensed physicians and hold a Masters of Public Health (MPH) degree or its equivalent. Health officers who do not meet the latter requirement must undertake three years of service as a "provisionally qualified" LHO and receive an orientation to public health and annual evaluations by the State Secretary of Health. Fully qualified health officers may participate in the orientation program on a voluntary basis. Competency-based training reflects seven major areas of LHO responsibility as identified in the 1998 Washington State Survey of Health Officers. These areas include:

- public health practice
- infectious diseases
- environmental health
- epidemiology/assessment
- management/leadership
- relationships with key people/groups
- communications

Local health officer training resources are provided through a partnership among the Washington State Department of Health, Washington State Association of Local Public Health Officials, and the Northwest Center for Public Health Practice - University of Washington School of Public Health and Community Medicine.

Resource: Janice Taylor, Distance Learning Coordinator Workforce Development, Washington State Department of Health, P.O. Box 47815, Olympia, WA 98504 (360) 236-4086 (360) 236-4088 fax janice.taylor@doh.wa.gov http:healthlinks.washington.edu/inpho/lho/

Training for Competencies

Strategy: Establish partnerships with colleges and universities to meet mutual practice and training needs of both public health employees and students.

Example: In 1999, the Allegheny County Health Department (Pennsylvania) and the University of Pittsburgh Center for Public Health Practice, funded by HRSA's Bureau of Health Professions, created a formal partnership for faculty and workforce development. As part of this partnership, Public Health Roundtable cases were presented by health department staff to university faculty and students. The first of these concerned a waterborne infectious disease outbreak in a private swim club. During these dis-

cussions, the health department and staff benefited by learning more about new technologies in disease surveillance and intervention. Students and faculty benefited by learning the interplay of many disiplines in solving a public health problem.

Resource: Margaret A. Potter, Associate Dean & Director, Center for Public Health Practice, University of Pittsburgh Graduate School of Public Health, 125 Parran Hall, Pittsburgh, PA 15261 (412) 624-3496 (414) 624-8679 fax Maggie@gsphdean.gsph.pitt.edu http://www.phf.org/Link/FirstPlace.htm

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Strategy: Tap into Federal resources and models to provide training to diagnose community health problems and respond to health hazards.

Example: The Centers for Disease Control and Prevention (CDC) funds a national system of Centers for Public Health Preparedness with three components: Academic Centers, Specialty Centers, and Local Exemplar Centers. The Academic Centers for Public Health Preparedness provide training and other services to strengthen local health departments' front lines against community health threats. The Academic Centers link schools of public health, State and local health departments, and other community health partners to foster individual preparedness. The four recently-funded centers are University of Illinois at Chicago School of Public Health (Illinois Public Health Preparedness Center), University of North Carolina at Chapel Hill School of Public Health (North Carolina Center for Public Health Preparedness), University of Washington School of Public Health and Community Medicine (Northwest Center for Public Health Preparedness), and Columbia University Mailman School of Public Health (Center for Public Health Preparedness). In addition, Specialty Centers for Public Health Preparedness focus on a topic, professional discipline, core public health competency, practice setting, or application of learning technology. The three centers are Dartmouth College, Dartmouth Medical School, Interactive Media Laboratory (Collaboratory in Applied Communications Technology); Saint Louis University School of Public Health (Center for the Study of Bioterrorism and Emerging Infections); and Johns Hopkins University School of Hygiene and Public Health and Georgetown University Law Center—Center for Law and the Public's Health (Collaborating Center in Public Health Law). Three local health departments serve as Local Exemplar Centers for Public Health Preparedness. These Centers were established as hubs for developing and disseminating best practices at the local level such that they could serve as models for other local public health agencies. The three local health department centers are DeKalb County, Georgia; Denver, Colorado; and Monroe County, New York. Training models and resources developed through the Centers are available to other agencies. CDC's long-term goal is to use this national system of academic, specialty, and local centers to translate public health science into practice at the front line. The Centers are designed to support CDC's prevention programs, in general, and bioterrorism/emerging infectious diseases, in particular.

Resource: Maureen Y. Lichtveld, Associate Director for Workforce Development, Office of Workforce Development, Public Health Practice Program Office, Centers for Disease Control and Prevention, 2877 Brandywine Road, Atlanta, GA 30341 (770) 488-2480 (770) 488-2574 fax mal7@cdc.gov http://www.phppo.cdc.gov/training.asp

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Example: The Environmental Health Nursing Initiative, sponsored by the Agency for Toxic Substances and Disease Registry (ATSDR), works with more than 35 partners to increase the environmental health competencies of nurses through a national, integrated strategy having education, practice, and research components. This competency-based program provides tools to achieve and incorporate the basic environmental competencies recommended for nurses by the Institute of Medicine's 1995 report, *Nursing, Health, and Environment.* Thousands of nurses have benefited from the Initiative's educational programs to help nurses recognize, assess, intervene with, and properly refer environmental health problems. Training videotapes and materials are available from the August 2000 satellite broadcast, "Environmental Health: A Nursing Opportunity," viewed by over 2200 nurses in all 50 states. (To order tapes or view materials, visit http://www.cdc.gov/phtn/envhealth/nursing.htm.) Several components of the national strategy are already in place, including a modular curriculum; a nursing environmental health listserv; a regionally-based "Tool Box" that includes policy development guidelines, case studies reflecting common exposure scenarios, a clearinghouse of materials, and guides to help nurses and other health care providers remember the elements of taking an exposure history; and a best practices

videotape. The spirit of partnership and collaboration is making the Nursing Initiative a nationwide success. As examples of the many Initiative partner activities:

The Health Resources and Services Administration (HRSA) is working to provide nurses with more opportunities for in-depth exposure to and application of environmental health concepts through its established network of Public Health Training Centers.

The National Environmental Education and Training Foundation (NEETF), http://www.neetf.org, is working with ATSDR to publish a compilation of success stories in which nurses are implementing programs in varied areas of practice. ATSDR is negotiating projects with the National Institute of Nursing Research (NINR), http://www.nih.gov/ninr, to improve the expertise and career development of nurses in environmental health.

Resource: Cherryll Ranger, Nurse Health Educator, Division of Health Education and Promotion, Agency for Toxic Substances and Disease Registry (ATSDR), 1600 Clifton Road, MS E-42, Atlanta, GA 30333 (404) 639 6293 or (888) 42-ATSDR (404) 639-6208 fax chr4@cdc.gov http://www.atsdr.cdc.gov/EHN/2nursing_initiative.html

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Strategy: Develop a standard training program for all new public health agency employees.

Example: The 1996 Washington State Public Health Improvement Plan (PHIP) identified performance standards to measure the State's capacity to perform public health core functions (assessment, policy development, and assurance).[39]

To improve staff performance and give staff the skills they needed to shift their emphasis from service delivery to carrying out the core functions, the Washington legislature appropriated education and training funds.

Using several approaches to meet the training needs of State and local public health staff, Washington State:

- Established competencies for the 1996 PHIP performance standards.
- Developed a new, ongoing curriculum, Core Functions: What's It All About, a one day training program for new staff in governmental public health settings.
- Designed a series of competency-specific training programs to develop skills such as building partnerships, designing surveys, community organizing, communication, and qualitative research methods.
- Established in 1996, the Washington Public Health Training Network (WAPHTN), a system that links people with the training they need to improve public health. The system assures training through assessment, curriculum development, delivery, and evaluation. In its first year of operation, the Network served 4,656 people through a variety of training modalities.[40]

Although the legislature eliminated funding for statewide training in 1997, WAPHTN operates through the contributions of various partners including the University of Washington Northwest Center for Public Health Practice, CDC's PHTN, Health Care Financing Administration, local health departments, community-based organizations, hospitals, and others.

Resource: Janice Taylor, Distance Learning Coordinator Workforce Development, Washington State Department of Health, P.O. Box 47815, Olympia, WA 98504 (360) 236-4086 (360) 236-4088 fax janice.taylor@doh.wa.gov http://healthlinks.washington.edu/nwcphp/waphtn/ http://healthlinks.washington.edu/nwcphp/waphtn/c-model.pdf (Public Health Improvement Plan Competency Model)

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Example: The Utah Department of Health is developing a computer-based, entry-level training program for staff members who have not had formal training in public health. The training program covers core public health concepts: (1) defining public health; (2) core functions and the Ten Essential Public Health Services; (3) the history and impact of public health; (4) the science base (e.g., epidemiology, behavioral science); and (5) the future of public health. Users of the CD-ROM training can interact with the Internet to create learning "communities." The program will be implemented and evaluated with State and local health departments and University of Utah public health students prior to its expected launch in June 2001.

Resource: Sharon Clark, Health Education, Utah Department of Health, PO Box 141000, Salt Lake City, UT 84114-1000 (801) 538-6444 slclark@doh.state.ut.us http://hlunix.ex.state.ut.us/

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Strategy: Focus continuing education to maintain and develop competencies in managers.

Example: West Virginia Bureau for Public Health mandates management training for all middle- and senior-level managers. Informing and reminding the public about health issues was deemed a high priority in West Virginia by the Bureau and thus incorporated in management training. West Virginia Bureau for Public Health is a partner in the Southeast Public Health Leadership Institute.

Resource: Cathy Taylor, Workforce Development Coordinator, West Virginia Bureau for Public Health, 350 Capitol St., Room 702, Charleston, WV 25301-3712 (304) 558-0051 (304) 558-1035 fax cathytaylor@wvdhhr.org http://www.wvdhhr.org/bph/

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Example: In 1999, the University of North Carolina at Chapel Hill School of Public Health and the Kenan-Flagler Business School instituted the Management Academy for Public Health, funded by CDC, HRSA, the Robert Wood Johnson Foundation, and the W.K. Kellogg Foundation. By pooling the expertise of the public health and business schools, the Management Academy offers training in state-of-the-art management skills for public health practice. The program is available to public health managers in Georgia, North Carolina, South Carolina, and Virginia. The Academy has been designed to develop management skills in 600 mid-and senior-level State and local public health managers in the four-State area during an initial four-year demonstration period. In May 2000, 99 managers ("members") completed the 10-month executive training program. Over 200 members currently in the Academy will graduate in May 2001. Three hundred members will be accepted for 2001-2002. Academy members can receive either CEUs or six hours of academic credit for the Academy. Learning methods include lectures, group projects, exercises, role-playing activities, and distance learning, including computer-based instruction.[41]

Resource: Steve Orton, Program Manager, Management Academy for Public Health, 420 Tate-Turner-Kuralt, CB# 8165, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599-8165 (919) 966-3309 (919) 966-9138 fax Jackie_Keith@unc.edu http:www.maph.unc.edu/

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Strategy: Mobilize workforce development partnerships with public health leadership institutes.

Example: The National Public Health Leadership Development Network (NPHLDN) is a consortium of State and regional public health leadership institutes. The mission of the Network is to increase public health leadership capacity through promotion of linkages among State, regional, national and international programs. The Network aims to increase the accessibility of public health leadership development programs, as well as to improve the quality of education and training programs for public health leaders. Network State and regional leadership programs are available or under development in more than 40 States. To learn about the nearest leadership institute, contact the Network office or visit the web site at http://www.slu.edu/organizations/nln/.

Resource: Diane Weber, National Public Health Leadership Development Network, Saint Louis University School of Public Health, 3663 Lindell Boulevard, St. Louis, MO 63108 (314) 977-3219 (314) 977-3234 fax weberdl@slu.edu http://www.slu.edu/organizations/nln/.

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Example: One member of the National Public Health Leadership Development Network is the Mid-Atlantic Health Leadership Institute, which graduated its first class of 29 leadership scholars in October 1998. Scholars represent local and State public health agencies, community health centers, private health care delivery systems, associations, universities, and other businesses and organizations, such as community development, ministry, insurance, and law. The program runs from January through October with three retreats, during which guest speakers present information on such topics as communications, politics, community diversity, "visioning," organizational development, and public health issues. In one retreat session on media communication, a consultant divided scholars into groups. Each group was given a public health-related current event scenario and told to be ready for a press conference in 10 minutes. Between the retreats, scholars worked in geographically-based teams (Delaware/Maryland Eastern Shore, District of Columbia, and central Maryland). The Delaware/

Maryland Eastern Shore team chose a project extending beyond the 10-month period of the Leadership Institute, thus setting up long-lasting collaboration across State boundaries. A second class began in January 1999 with the expectation many diverse partners would come together with the common goal of improving the health of communities through effective leadership.[42]

Resource: Anne Markham, Mid-Atlantic Health Leadership Institute, Johns Hopkins University School of Public Health, 624 N. Broadway, Room 329, Baltimore, MD 21205 (410) 614-6891 amarkham@jhsph.edu http://www.jhsph.edu/Research/Centers/MHLI/

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Strategy: Publicize available training opportunities among public health agency leaders and staff.

Example: The Public Health Training Network (PHTN) is a national scale, technology-based, distance learning system of public, private, and academic partnerships that work together to produce an effective public health workforce capable of delivering essential services and meeting national public health prevention goals. Headquartered and managed by the Centers for Disease Control and Prevention (CDC), PHTN is expanding its partnerships with new groups such as the National Guard and the Extended Care Network. Founding partners of this innovative system for delivering training to the learner are the Association of Schools of Public Health (ASPH), Food and Drug Administration (FDA), Association of State and Territorial Health Officials (ASTHO), and the Alabama Department of Public Health. PHTN draws its effectiveness from its distance learning coordinators. Every State health department has designated an individual to perform the vital functions of promoting and organizing State participation in PHTN training. PHTN uses a variety of instructional media—ranging from print-based to web-based productions as well as multimedia—to meet the training needs of the public health workforce nationwide. PHTN distance learning programs and products are announced through a toll-free 800 number (1-800-41-TRAIN) and through an online catalog at http://www.phppo.cdc.gov/phtnonline/index.asp.

Resource: Joan Edmondson, Division of Professional Development and Evaluation, Public Health Practice Program Office, Centers for Disease Control and Prevention, Mail Stop F-02, Atlanta, GA 30341 (404) 639-3632 (404) 639-1347 fax jwe2@cdc.gov http://www.cdc.gov/phtn/

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Example: TrainingFinder.org is the Public Health Foundation's online distance learning clearinghouse, sponsored by 20 national, not-for-profit organizations. The site allows public health professionals of all disciplines to search the most comprehensive database of distance learning listings by subject area, target audience, credit type, keyword, or a combination of fields. Many subject areas are designed to reflect Healthy People 2010 focus areas and the Essential Public Health Services. The site provides information about hundreds of public and private sector distance learning courses available to public health employees.

Resource: http://www.TrainingFinder.org/

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Example: The ASPH Distance Education web site provides comprehensive listings of degree, certificate, credit, and non-credit distance learning programs offered by accredited schools of public health. The site profiles each school's distance education program and eligibility requirements. Potential students can search the site for nearly 100 course topics.

Resource: Association of Schools of Public Health-Distance Education http://www.asph.org/aasection.cfm/20/

Healthy People 2010 Workforce-related Objectives

Healthy People 2010 (November 2000)

The workforce-related objectives are listed below by focus area and numbered as they appear in Healthy People 2010. The objectives, along with important background information, are available on the Healthy People 2010 web site, http://www.health.gov/healthypeople.

Access to Quality Health Services (1)

1-7. (Developmental) Increase the proportion of schools of medicine, schools of nursing, and other health professional training schools whose basic curriculum for health care providers includes the core competencies in health promotion and disease prevention.

1-8. In the health professions, allied and associated health profession fields, and the nursing field, increase the proportion of all degrees awarded to members of under-represented racial and ethnic groups.

Health Communication (11)

11-5. (Developmental) Increase the number of centers for excellence that seek to advance the research and practice of health communication.

Mental Health and Mental Disorders (18)

18-13. (Developmental) Increase the number of States, Territories, and the District of Columbia with an operational mental health plan that addresses cultural competence.

Oral Health (21)

21-17. (Developmental) Increase the number of Tribal, State (including the District of Columbia), and local health agencies that serve jurisdictions of 250,000 or more persons that have in place an effective public dental health program directed by a dental professional with public health training.

Public Health Infrastructure (23)

23-8. (Developmental) Increase the proportion of Federal, Tribal, State, and local agencies that incorporate specific competencies in the Essential Public Health Services into personnel systems.

23-9. (Developmental) Increase the proportion of schools for public health workers that integrate into their cirricula specific content to develop competency in essential public health services.

23.10. (Developmental) Increase the proportion of Federal, Tribal, State and local public health agencies that provide continuing education to develop competency in essential public health services for their employees.

Healthy People 2010: Draft for Public Comment (1998)

Objectives Related to Workforce Development

Healthy People 2010: Draft for Public Comment (September 1998) contained 18 objectives related to workforce planning, tracking, training, and professional skills. Although many of the objectives were not retained in the final edition of Healthy People 2010, the draft objectives have been used by several States and communities that are looking for additional ideas for objectives related to workforce development. Draft objectives are listed by focus area and numbered as they were in the Draft for Public Comment.

Access to Quality Health Services

5. (Developmental) Increase the proportion of physicians, physician assistants, nurses, and other clinicians who receive appropriate training to address important health disparities: disease prevention and health promotion, minority health, women's health, geriatrics.

10. Increase the proportion of all degrees in the health professions and allied and associated health professions fields awarded to members of under-represented racial and ethnic minority groups.

Health Communication

7. (Developmental) Increase to __ percent the proportion of health professional schools that include a health communication/media technology curriculum.

Maternal, Infant, and Child Health

34. (Developmental) Increase the proportion of primary care providers who have specific training in the use and interpretation of genetic testing methods.

Mental Health and Mental Disorders

9. (Developmental) Increase to __ the number of States that have a plan to develop cultural competence within their mental health delivery system.

10. (Developmental) Increase to __ the proportion of primary care providers who are trained to screen for mental health problems for infants, toddlers, preschool children, school-aged children, and adolescents.

11. (Developmental) Increase to __ percent the proportion of primary care providers who are trained to offer information and make referrals for parent training that focuses on the mental health needs of infants, toddlers, and preschoolers.

Oral Health

12. (Developmental) Increase to __ percent the proportion of 2-year-olds who receive caries screening by a qualified health professional (e.g., dentist, dental hygienist, pediatrician, nurse, etc.) for the existence of any observable decay and counseling regarding the need to either increase sources of fluoride or decrease potentially excessive sources of fluoride, e.g., unsupervised tooth brushing.

20. (Developmental) Ensure that all State health agencies and all local health agencies serving jurisdictions of 250,000 or more persons have an identifiable dental public health program in place that is directed by a dental professional.

Public Health Infrastructure

1. (Developmental) Increase the number of States and local jurisdictions that incorporate specific competencies for public health workers into their public health personnel systems.

2. (Developmental) Increase the number of schools training public health workers that integrate specific training in the essential public health services into their curricula.

3. (Developmental) Increase the number of State and local public health agencies that provide continuing education and training to their employees to improve performance of the essential public health services.

4. (Developmental) Increase the proportion of Federal, State, and local public and private sector employers that voluntarily adopt the Standard Occupational Classification System to categorize public health personnel.

Respiratory Diseases

16. (Developmental) Increase to __ percent the proportion of primary care providers who are trained to provide culturally competent care to ethnic minorities seeking health care for chronic obstructive pulmonary disease.

17. (Developmental) Increase to __ percent the proportion of primary care providers who are trained to recognize the early signs of chronic obstructive pulmonary disease before they become serious and disabling, using appropriate lung function tests.

21. Increase to 6 hours the average number of hours that medical school curricula devoted to training medical students in sleep medicine. (Baseline: About 2 hours in 1990)

Sexually Transmitted Diseases

15. (Developmental) Increase to __ the number of schools for health care providers (medical, osteopathy, nursing (R.N.), family planning, nurse practitioners, nurse midwives, and physician assistants) with both a required sexual health didactic (including sexual history and sexually transmitted disease [STD], HIV, and contraception counseling) and clinical experience in primary health care to ensure interactions with patients needing STD, HIV, and contraception services.

Tobacco Use

12. Increase to at least 75 percent the proportion of health care providers who routinely advise cessation and provide assistance, follow up, and document charts for all their tobacco-using patients. Providers to include physicians, dentists, nurses, dental hygienists, mental health professionals, social workers, psychologists, pharmacists, medical assistants, physician assistants, and home health care aides.

Healthy People 2010 Online Resources

Healthy People 2010 Online
http://www.health.gov/healthypeople/Document/tableofcontents.htm

View, search, and download Healthy People 2010 online. Individual focus areas (e.g., "Access" and "Public Health Infrastructure" for the workforce objectives highlighted in this document) are available in Word, Acrobat Reader, Rich Text Format, or HTML.

Healthy People 2010 Home Page
http://www.health.gov/healthypeople/

The official site for comprehensive information on Healthy People 2010, getting involved, measuring progress, partners, resources, and more.

Healthy People 2010 Publication Orders
http://www.health.gov/healthypeople/Publications/

Healthy People 2010 goals, objectives, and leading health indicators are available online, in print, and on CD-ROM. This site contains ordering information for many Healthy People 2010 publications for sale by the Government Printing Office or Office of Disease Prevention and Health Promotion (ODPHP) Communications Support Center.

DATA2010, the National Healthy People 2010 Database
http://www.health.gov/healthypeople/Data/data2010.htm

DATA2010 is an interactive database system that contains the most recent data for tracking Healthy People 2010. Data are included for all the objectives and subgroups, using primarily national data. State-based data are provided as available. Developed by the National Center for Health Statistics, Centers for Disease Control and Prevention.

Healthy People 2010 Toolkit: A Field Guide to Health Planning
http://www.health.gov/healthypeople/state/toolkit/

The Toolkit contains practical guidance, technical tools, and resources for States, territories, tribes, and others involved in Healthy People planning. View, search, and download free online. To purchase a printed copy (item RM-005), call the Public Health Foundation (PHF) at 1-877-252-1200 or visit http://bookstore.phf.org. Developed by PHF with assistance from ODPHP, DHHS.

State Healthy People 2010 Tool Library
http://www.phf.org/HPtools/state.htm

View and download many of the latest Healthy People 2010 tools and materials shared by States.

HEALTHY PEOPLE 2010

Appendices

Appendix A:
References and Additional Readings

Minority Representation in the Health Professions

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Appendix B: Core Public Health Competencies, Draft (Council on Linkages Between Academia and Public Health Practice, May 2001)

For more information on the core compentencies and their uses, visit http://www.TrainingFinder.org/competencies

ANALYTICAL ASSESSMENT SKILLS

- Defines a problem
- Determines appropriate uses and limitations of both quantitative and qualitative data
- Selects and defines variables relevant to defined public health problems
- Identifies relevant and appropriate data and information sources
- Evaluates the integrity and comparability of data and identifies gaps in data sources
- Applies ethical principles to the collection, mainte nance, use, and dissemination of data and infor mation
- Partners with communities to attach meaning to collected quantitative and qualitative data
- Makes relevant inferences from quantitative and qualitative data
- Obtains and interprets information regarding risks and benefits to the community
- Applies data collection processes, information technology applications, and computer systems storage/retrieval strategies
- Recognizes how the data illuminates ethical, political, scientific, economic, and overall public health issues

POLICY DEVELOPMENT/PROGRAM PLANNING SKILLS

- Collects, summarizes, and interprets information relevant to an issue
- States policy options and writes clear and concise policy statements
- Identifies, interprets, and implements public health laws, regulations, and policies related to specific programs
- Articulates the health, fiscal, administrative, legal, social, and political implications of each policy option
- States the feasibility and expected outcomes of each policy option
- Utilizes current techniques in decision analysis and health planning
- Decides on the appropriate course of action
- Develops a plan to implement policy, including goals, outcome and process objectives, and implementation steps
- Translates policy into organizational plans, structures, and programs
- Prepares and implements emergency response plans
- Develops mechanisms to monitor and evaluate programs for their effectiveness and quality

COMMUNICATION SKILLS

- Communicates effectively both in writing and orally, or in other ways
- Solicits input from individuals and organizations
- Advocates for public health programs and resources
- Leads and participates in groups to address specific issues
- Uses the media, advanced technologies, and community networks to communicate information
- Effectively presents accurate demographic, statistical, programmatic, and scientific informtion for professional and lay audiences

Attitudes

- Listens to others in an unbiased manner, respects points of view of others, and promotes the expression of diverse opinions and perspectives

CULTURAL COMPETENCY SKILLS

- Utilizes appropriate methods for interacting sensitively, effectively, and professionally with persons from diverse cultural, socioeconomic, educational, racial, ethnic and professional backgrounds, and persons of all ages and lifestyle preferences
- Identifies the role of cultural, social, and behavioral factors in determining the delivery of public health services
- Develops and adapts approaches to problems that take into account cultural differences

Attitudes

- Understands the dynamic forces contributing to cultural diversity
- Understands the importance of a diverse public health workforce

COMMUNITY DIMENSIONS OF PRACTICE SKILLS

- Establishes and maintains linkages with key stakeholders
- Utilizes leadership, team building, negotiation, and conflict resolution skills to build community part-

nership
- Collaborates with community partners to promote the health of the population
- Identifies how public and private organizations operate within a community
- Accomplishes effective community engagements
- Identifies community assets and available resources
- Develops, implements, and evaluates a community public health assessment
- Describes the role of government in the delivery of community health services

BASIC PUBLIC HEALTH SCIENCES SKILLS

- Identifies the individual's and organization's responsibilities within the context of the Essential Public Health Services and core functions
- Defines, assesses, and understands the health status of populations, determinants of health and illness, factors contributing to health promotion and disease prevention, and factors influencing the use of health services
- Understands the historical development, structure, and interaction of public health and health care systems
- Identifies and applies basic research methods used in public health
- Applies the basic public health sciences including behavioral and social sciences, biostatistics, epidemiology, environmental public health, and prevention of chronic and infectious diseases and injuries
- Identifies and retrieves current relevant scientific evidence
- Identifies the limitations of research and the importance of observations and interrelationships

Attitudes

- Develops a lifelong commitments to rigorous critical thinking

FINANCIAL PLANNING AND MANAGEMENT SKILLS

- Develops and presents a budget
- Manages programs within budget constraints
- Applies budget processes
- Develops strategies for determining budget priorities
- Monitors program performance
- Prepares proposals for funding from external sources
- Applies basic human relations skills to the management of organizations, motivation of personnel, and resolution of conflicts
- Manages information systems for collection, retrieval, and use of data for decision-making
- Negotiates and develops contracts and other documents for the provision of population-based services
- Conducts cost-effectiveness, cost-benefit, and cost utility analyses

LEADERSHIP AND SYSTEMS THINKING SKILLS

- Creates a culture of ethical standards within organizations and communities
- Helps create key values and shared vision and uses these principles to guide action
- Identifies internal and external issues that may impact delivery of essential public health services (i.e. strategic planning)
- Facilitates collaboration with internal and external groups to ensure participation of key stakeholders
- Promotes team and organizational learning
- Contributes to development, implementation, and monitoring of organizational performance standards
- Uses the legal and political system to effect change
- Applies theory of organizational structures to professional practice

End Notes

[1] Department of Health and Human Services, *Healthy People 2010*. Volume I:1-25-26; Volume II:23-14-15. (Washington, D.C., November 2000).

[2] Please visit http://bhpr.hrsa.gov/healthworkforce/hp2010.pdf for updates to this document. The Public Health Foundation made every reasonable effort to confirm the accuracy of all web site addresses, resource listings, and contact informa tion. PHF apologizes for any inconvenience caused by in accurate listings and asks readers to please bring these to our attention.

[3] Healthy People 2010 objective 1-8 focuses on health care professionals and does not include public health professionals in its datapoints for degrees awarded in the "health profes-sions." However, strategies to diversify the public health professions are also included in Section II of this document because individual States may wish to cast their workforce development objectives more broadly.

[4] Association of American Medical Colleges, *Affirmative Action Rollbacks Discourage Minorities from Applying to Medical School*. http://www.aamc.org/newsroom/pressrel/971101.htm (10/6/00).

[5] A national consensus set of core competencies for public health professionals, developed by the Council on Linkages Between Academia and Public Health Practice and reviewed by over 1,000 public health professionals, is available at: http://www.TrainingFinder.org/competencies (05/01/01).

[6] Department of Health and Human Services, Health Resources and Services Administration, Bureau of Health Professions. FACT SHEET Health Care Access: It All Starts with Quality Professionals, July 2000.

[7] A term created by the Association of American Medical Colleges (AAMC) in 1970 to refer to four groups—Blacks, Mexican Americans, mainland Puerto Ricans, and American Indians. AAMC, *Questions and Answers on Affirmative Action*, April 1998, p.2.

[8] Department of Health and Human Services, *Healthy People 2010*, Volume II:23-6. (Washington, D.C., 2000).

[9] AAMC, Ibid., p.1.

[10] Department of Health and Human Services, Health Resources and Services Administration, Council on Graduate Medical Education, *Minorities in Medicine, 12th Report*, (Washington, D.C., 1998), 15.

[11] H.W. Nickens, and T. Ready, "Problems in the Pipeline," in *More Minorities in Health*, (The Kaiser Forum, 1994).

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[13] Ibid.

[14] Nickens, "Problems in the Pipeline," 13.

[15] AAMC, 6-9.

[16] Association of American Medical Colleges, *Known Affirmative Action Related Activities in the States: Legislative or Ballot Initiatives and Judicial Actions, Health Professionals For Diversity: Legislative/Ballot Activities*. http://www.aamc.org/about/progamph/diverse/legislat.htm (10/6/00).

[17] Association of American Medical Colleges, *Affirmative Action Rollbacks Discourage Minorities from Applying to Medical School*. http://www.aamc.org/newsroom/pressrel/971101.htm (10/6/00).

[18] DHHS, Healthy People 2010, Volume I:1-26.

[19] AAMC, "Questions and answers., Introduction, P.1."

[20] G. Strayhorn, and K. Demby. "Do pre-admission programs make a difference in the enrollment of under-represented minority students at U.S. medical schools?" *Academic Medicine* 74, (1999): 127-130.

[21] C.F. Witten, "Post-baccalaureate programs at Wayne State University School of Medicine: a 30-year report," *Academic Medicine* 74, no. 4 (1999): 393-396.

[22] J.C. Cantor, L. Bergeisen, and L.C. Baker, "Effect of an educational program for minority college students and recent graduates on the probability of acceptance to medical school," *Journal of the American Medical Association*, 280 no. (1998): 772-776.

[23] Public Health Functions Steering Committee, *Ten Essential Public Health Services* (1994). For more information about the Ten Essential PublicHealth Services, please see page 23.

[24] Department of Health and Human Services, Health Resources and Services Administration, Bureau of Health Professions, *Increasing Access to Health Care: Training Tomorrow's Professionals, Progress Report* (Rockville, MD, 1998), 14.

[25] Core competencies: The individual skills desirable for the delivery of Essential Public Health Services. Intended level of mastery, and, therefore, learning objectives for workers within each competency, will differ depending upon their back grounds and job duties.

[26] Department of Health and Human Services, Healthy People 2010, Volume II:23-14. (Washington, D.C., 2000).

[27] Public Health Foundation, *Examining Data Sharing among State Governmental Health Agencies*, (Washington, D.C. 1998).

[28] *Privatization and Public Health: A Report of Initiatives and Early Lessons Learned*, by Public Health Foundation (The Annie E. Casey Foundation, Baltimore, MD 2000).

[29] Walter P. Bailey, telephone conversation, 27 July 2000.

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[42] Marie Flake, "The Mid-Atlantic Health Leadership Institute: Building Communities by Building Leaders," The Link 13, no.2 (1999): 3,7.

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